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Report of the Secretary-General

Addendum

Safe and environmentally sound management of radioactive wastes*

(Chapter 22 of Agenda 21)

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* The report was prepared by the International Atomic Energy Agency (IAEA) as task manager for chapter 22 of Agenda 21, in accordance with arrangements agreed to by the Inter-Agency Committee on Sustainable Development (IACSD). It is the result of consultation and information exchange between United Nations agencies, international and national science organizations, interested government agencies and a range of other institutions and individuals.

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INTRODUCTION

1. This report reviews progress made in the implementation of the objectives set out in chapter 22 of Agenda 21 (Safe and environmentally sound management of radioactive wastes),[1] taking into account the decisions taken by the Commission on Sustainable Development on this subject at its second session in 1994. In addressing issues related to the safe and environmentally sound management of radioactive wastes, chapter 22 of Agenda 21 identifies two areas of global concern: management-related activities, including capacity-building, and international and regional cooperation, including strengthened international legal instruments. The present report is limited to results, changes, constraints and proposals for action. Underpinning the results are comprehensive programmes dealing with all aspects of radioactive wastes, primarily under the auspices of the International Atomic Energy Agency (IAEA), but also in specific areas in cooperation with the International Maritime Organization (IMO), the Food and Agriculture Organization of the United Nations (FAO), the World Health Organization (WHO) and the United Nations Environment Programme (UNEP) and regional organizations such as the European Union and the Nuclear Energy Agency of the Organisation for Economic Cooperation and Development (OECD).

I. KEY OBJECTIVES

2. The key objectives are to ensure the environmentally safe and sound management of radioactive wastes and to reinforce international cooperation to that end.

A. Management-related activities

3. The main management-related activity involves the application of the precautionary principle in decisions concerning new or extended activities generating radioactive waste. There is also need for States, in cooperation with relevant international bodies, to:

(a) Promote policies and practical measures to minimize and limit, where appropriate, the volume of radioactive wastes;

(b) Secure sites for the storage of radioactive wastes;

(c) Ensure that radioactive wastes arising from military activities are subject to the same types of strict safety and environmental regulations as those arising from civilian activities;

(d) Internalize, to the maximum extent possible, all costs related to waste management and the decommissioning of nuclear facilities;

(e) Demonstrate viable methods for the safe treatment, storage and disposal of low- and intermediate-level, long-lived and high-level radioactive wastes.

4. Suppliers of sealed radiation sources should accept the return of such sources and ensure their safe and environmentally sound management.

B. International cooperation and legal instruments

5. These objectives include the development and conclusion of an international convention on the safe management of radioactive wastes, including the prohibition of exports of such wastes except to countries with appropriate waste-management infrastructure and facilities; the development of international standards for radioactive-waste management; strengthening cooperation with and the provision of assistance to economies in transition in solving their urgent problems due to improper treatment and disposal of radioactive wastes; and the provision of technical assistance to developing countries for the safe management and disposal of radioactive wastes and for national capacity-building to that end.

II. SUCCESSES

A. Management-related activities

6. The Commission urged Governments to apply the precautionary principle - e.g., preparatory measures for final disposal - in decisions concerning new or extended activities generating radioactive wastes. In most countries with nuclear programmes, the preferred method for the disposal of long-lived radioactive wastes is its long-term isolation in a system of multiple barriers located in deep and stable geological formations. Through the IAEA and Nuclear Energy Agency of OECD, information is exchanged and peer reviews are organized - for instance, the Joint NEA/IAEA international peer review of the long-term safety analysis of the Waste Isolation Pilot Plant, a United States disposal facility expected to receive long-lived radioactive waste in the near future.

7. The Radioactive Waste Management Committee of the NEA (OECD) addressed the strategy for the final disposal of long-lived radioactive wastes from an environmental and ethical perspective. It considers that the ethical principles of intergenerational and intragenerational equity must be taken into account in assessing the acceptability of strategies for the long-term management of radioactive waste.

8. The concept of maintaining retrievability over longer time scales is gaining increasing favour. This allows for the emergence of better technical solutions or for different choices to be made by future generations. Retrievability can be achieved through stores designed to be continuously monitored and maintained or through sealed stores which can be reopened.

9. The large amount of accumulated radioactive waste from both civilian and military programmes is a cause for concern. The experience gained in Russia and

the Commonwealth of Independent States in this area can be shared globally. In February 1993 the Consortium d'assistance opérationelle aux pays de l'Europe de l'est (CASSIOPEE) was established to assist countries of Eastern Europe to develop radioactive-waste-management systems within the framework of the European Union's assistance programmes PHARE and TACIS. In 1995 a contact expert group was established under the auspices of IAEA to assist member States with cooperation in a number of Russian priority projects. In October 1996 the International Conference on Radioactive Waste: Storage, Transportation, Recycling; Environment and Human Impact was held in St. Petersburg.

10. There has been, in some advanced countries, a revival of research into ways of reducing waste volumes and the possibility of transforming longer-lived radionuclides into shorter-lived ones. IAEA has developed guidance on minimizing the production of radioactive wastes in the nuclear fuel cycle, on the recycling and reuse of materials from the nuclear fuel cycle and minimizing wastes from the decontamination and decommissioning of nuclear facilities.

B. Capacity-building

11. Regional training courses on the management of radioactive waste from nuclear applications are being organized by the IAEA. One was held in Santiago, Chile, in August 1996. A regional demonstration centre was established in the Cekmece Nuclear Research and Training Centre, Istanbul, Turkey.

12. At the Seminar on Radioactive Waste Management Practices and Issues in Developing Countries (October 1994, Beijing), China, emphasis was placed on the management of low- and intermediate-level waste arising from applications of radioisotopes in medicine, research and industry and from nuclear power generation. The status of radioactive waste management programmes in both developing and advanced countries was reviewed.

13. To reflect the high priority given to strengthening radiation protection, radioactive-waste management and the safety infrastructures, IAEA has initiated an interregional model project on upgrading waste management infrastructure. Action plans are prepared for each participating State, with commitments taken relating to the passing of legislation, the introduction of regulations, the establishment or strengthening of the regulatory authority, the provision of basic installations and of qualified staff, the conduct of inspections, and the organization of radioactive-waste handling and processing. Countries in each region cooperate in line with the concept of technical cooperation among developing countries. Some 50 countries in Africa, Western and Eastern Asia, Latin America and Europe are being targeted for this interregional effort, for which four regional experts have been appointed.

14. A sealed sources registry system has been developed, tested and made available to member States to assist them in managing and controlling their sealed radiation sources. Training has been given to system administrators in the use of this registry system.

C. Legal instruments

15. Regional conventions are in force to prohibit the import and dumping of radioactive wastes - for example, the Noumea Convention (1986), the Lomé IV Convention (1989), and the Bamako Convention (1991).

16. The Radioactive Waste Safety Standards programme includes the preparation of safety guides and practices covering all aspects of radioactive-waste management. This comprehensive series of internationally agreed documents complements and guides national standards and criteria. Two of the most essential documents, "Safety fundamentals: the principles of radioactive waste management" and "Safety standard establishing a national system for radioactive waste management", were published in 1995.

17. A draft convention on the safety of radioactive waste management is being developed under the auspices of IAEA and with the participation of UNEP, the Commission of European Communities (CEC) and NEA/OECD. Relevant provisions of Agenda 21 are being taken into account.

18. The 1993 IMO Code for the Safe Carriage of Irradiated Nuclear Fuel, Plutonium and High-level Radioactive Wastes in Flasks on Board Ships, which was elaborated in cooperation with IAEA and UNEP, has been subject to review and ongoing expert work in the competent bodies.

19. National measures against illicit trafficking in nuclear materials and other radioactive sources have been strengthened. Internationally, the relevant instruments are the Treaty on the Non-Proliferation of Nuclear Weapons, indefinitely extended in 1995, the safeguard agreements with the IAEA, the Convention on the Physical Protection of Nuclear Material, the Vienna Convention on Civil Liability for Nuclear Damage, and the Convention on Nuclear Safety.

III. PROMISING CHANGES

20. The relaxation of tensions with the cessation of the cold war has made available much previously classified information on matters relating to radioactive releases and their environmental impacts. This new source of environmental information has renewed interest and stimulated research on radionuclides in the environment. In many cases, the need to gain greater understanding of radionuclide behaviour in the environment is linked to plans for cleaning up the environmental contamination that resulted from weapons - production operations and the early days of nuclear fuel-cycle development.

21. The Government of France requested IAEA to perform a study to assess the full radiological situation in the atolls of Mururoa and Fangataufa, taking into account all past events of radiological significance. An international advisory committee was established to oversee the study, which is being carried out by some 60 experts from member States and ex officio experts selected by the South Pacific Forum, the United Nations Scientific Committee on Effects of Atomic Radiation (UNSCEAR), WHO and the European Community. It is expected that the study will be published early in 1998.

22. At an April 1996 nuclear safety summit in Moscow, the Government of Russia proposed the establishment of regional radioactive waste storage sites, financed and supervised by countries advanced in nuclear technology. The availability of such sites would enable Russia to accede to the 1993 amendment to the 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Dumping Convention). Japan is helping to build a liquid-waste processing plant in the far eastern part of the Russian Federation. A plant for treating liquid low-level wastes in the Arctic is being built in a joint effort between Norway, the United States and Russia. Norway, Russia and the United States signed an agreement in September 1996 for dealing jointly with nuclear and other waste stored or dumped in the Arctic.

23. IAEA has developed a computer-based record-keeping system to assist achieving effective control of sealed radiation sources, the Sealed Radiation Sources (SRS) registry, designed for use by national regulatory bodies and regional centres for tracking sources from the cradle to the grave. Technical assistance is offered to developing countries for enclosing and sealing radium sources for safe storage.

24. For the first time IAEA is initiating a survey of member States that are, or will be, engaged in the remediation of radioactively contaminated environments, the purpose of which is to collect data about sites that will require environmental restoration. This essential information will be used in the IAEA Environmental Restoration Programme, which provides technical support to member States engaged in such activities.

IV. UNFULFILLED EXPECTATIONS

25. While an awareness of the importance of radiation and waste safety has been achieved in most countries, in many cases that awareness has not led to the establishment of adequate national radiation and waste safety infrastructures.

26. Like other sectors of the economy in the republics of the former Soviet Union and certain developing countries, the nuclear industry is strapped for cash, and the problems created by the accumulation of radioactive wastes are given low priority. Incidents and accidents involving "uncontrolled" radiation sources continue to increase. In addition, poor documentation, incomplete registries and staff changes have hampered efforts to bring those sources under control. While international attention has been drawn to these problems, action to alleviate them is insufficient.

27. International guidance on clean-up criteria is lacking. Working groups of the International Commission for Radiation Protection (ICRP) and IAEA are currently studying the issue, which is complicated by the many different types of contamination. The main guidance which can be given internationally will be on a common approach to developing clean-up levels and on their use in decision-making.

V. EMERGING PRIORITIES

28. Regional training centres should be strengthened to provide for the demonstration of techniques for the processing and storage of radioactive waste from the application of nuclear techniques in medicine, research and industry.

29. It has become increasingly evident that poor practices and accidents in the early years of the utilization of radium, the production and testing of nuclear weapons and the uranium mining industry have left a legacy of contaminated land areas in many countries. Nuclear-weapons-testing activities have left land surfaces and subsurface zones contaminated, including the Nevada Test Site, in the United States, some atolls of the Marshall Islands, the Mururoa and Fangataufa Atolls in French Polynesia, Maralinga in Australia, and Semipalatinsk, Kazakstan. Weapons production has also resulted in spillages and unplanned releases - for example, at the facilities at Hanford, United States, and Mayak/Chelyabinsk, Russian Federation. Many wastes from military and civilian nuclear operations were in the past poorly managed, as evidenced by the dumping of nuclear fuel and other wastes in the shallow waters of the Kara and Barents Seas. IAEA has assessed the present and future radiological consequences of such dumping and will report the results and give recommendations relating to the feasibility of remedial measures to the London Dumping Convention by the end of 1996. In accordance with General Assembly resolution 51/10, IAEA will take the lead in coordinating the development of the clearing-house mechanism with respect to radioactive substances, in connection with the implementation of the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities, adopted in Washington, D.C., in November 1995. There has been pressure to restore the Bikini Atoll of the Marshall Islands and expert groups have assessed the level of contamination and necessary protective measures.

30. Several challenges face countries as they plan and implement a national radioactive-waste-management programme: political, technical and ethical. It is the responsibility of each State with nuclear activities to establish a programme to face these challenges. Nuclear waste legislation has been delayed in several countries because of public opposition to waste repository sites. It is crucial to involve the public and local authorities in decision-making and to build public confidence in the principles that govern the safety of repositories and in waste management programmes. Much can be learned from "best practices" of States with long-established programmes.

31. Efforts should be intensified to complete, before the end of 1997, the drafting of the convention on the safety of radioactive waste management, harmonizing its provisions with existing legal instruments covering hazardous wastes and related matters.

Notes

[1] Report of the United Nations Conference on Environment and Development, vol. I, Resolutions Adopted by the Conference (United Nations publication, Sales No. E.93.I.8 and corrigendum), resolution 1, annex II.

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Overall progress achieved since the United Nations Conference on Environment and Development

Report of the Secretary-General

Addendum

Role and contribution of major groups*

(Chapters 23-32 of Agenda 21)

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* The present report was prepared by the Department for Policy Coordination and Sustainable Development of the United Nations Secretariat as task manager for chapters 23-32 of Agenda 21, in accordance with arrangements agreed to by the Inter-Agency Committee on Sustainable Development (ED). It is the result of consultation and information exchange between United Nations agencies, international and national organizations, interested government agencies and a range of other institutions, individuals and major group representatives.

The following supplementary materials related to major groups are also available:

- Background paper presenting the results of the survey on local Agenda 21s, prepared jointly by the International Council for Local Environmental Initiatives and the secretariat of the Commission on Sustainable Development, as requested by the Commission at its fourth session;

- Background paper presenting the results of the survey on major groups conducted by the secretariat of the Commission.

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I. CONCEPTUAL BACKGROUND

1. The present report reviews progress made in the implementation of the objectives set out in section III, chapters 23-32, of Agenda 21, on the role of major groups,[1] taking into account the decisions taken by the Commission on Sustainable Development on that subject in 1994, 1995 and 1996 at its second, third, and fourth sessions. Section III of Agenda 21 (Strengthening the role of major groups) includes nine chapters focusing on the role of women, children and youth, indigenous people, non-governmental organizations, local authorities, workers and trade unions, business and industry, scientific and technological communities, and farmers in the achievement of sustainable development. The term "major groups" emerged from the United Nations Conference on Environment and Development (UNCED). By coining the term, Governments at UNCED recognized both the unprecedented number and diversity of social and economic actors that contributed to the UNCED process and the significant role that they would continue to play in the follow-up phase.

2. The major groups concept refers to the participation of economic and social actors from outside the governmental and intergovernmental spheres in the implementation and monitoring of sustainable development activities. The concept establishes a tripartite arrangement for sustainable development partnership in which major groups, Governments and intergovernmental bodies need to work with each other, be transparent and accountable to each other, and help build each other's capacity.

3. Agenda 21 suggests that the decision-making processes in which major group organizations participate should include all types of activities, ranging from identifying problems, designing projects and programmes to provide solutions, implementing such projects and monitoring the impacts of implementation efforts. The general framework of participation is presented in the preamble to section III of Agenda 21 (chapter 23), which indicates that broad public participation in decision-making is a prerequisite for achieving sustainable development, and new forms of participation are necessary. The kind of participation implied involves meaningful partnerships, in which the views, actions and priorities of major group actors are not only included but make an impact on sustainable development decision-making.

4. Agenda 21 does not define the major groups concept itself, which leads to several difficulties, including:

(a) Delineating the groups: memberships within the nine major group categories overlap, which makes separating one major group from another difficult. For example, women participate not only as individual women and through their organizations but also through non-governmental organizations that deal with women's issues, and also as businesswomen, women farmers, indigenous women and young women;

(b) Participation arrangements: the existing framework of formal arrangements (accreditation process) of the United Nations system for the organizations of civil society are based on the arrangements established by the Economic and Social Council. Those arrangements recognize non-State actors

collectively as non-governmental organizations, regardless of whether they represent women, workers or local authorities.

5. The lack of a clear definition of the major groups concept has been an obstacle to universal adoption of the concept and its inherent participatory spirit. For example, usage of non-governmental organizations as a term to refer to all major groups continues among United Nations agencies, Governments and major group actors themselves. There is a need to better understand and recognize the role and contribution of each major group, and - given its importance in the Agenda 21 framework - to promote universal adoption of the major groups concept.

II. REVIEW OF PROGRESS

6. Subsections A to I below contain an overview of progress under the objectives of the nine chapters of Agenda 21 on major groups. The objectives of those chapters primarily concern participation in sustainable development decision-making. Major group contributions in technical areas of Agenda 21 are covered in other chapters of Agenda 21, and information on progress achieved in those areas can be found in the other sectoral and cross-sectoral reports before the Commission. The purpose of the present report is to identify the broad trends of change rather than provide detailed case studies. Such detailed information is contained in the annual reports to the Commission and in special collections of case studies prepared in 1995 and 1996.[2]

7. Given the lack of comprehensive data and variable quality of available information, the present analysis depends in some measure on anecdotal information, particularly for the tables, which are based on observations, information and views collected during the last five years rather than statistical analyses. Thus, the tables should be used as a starting point for discussions, not as definitive statements on the direction of change.

8. Each section below contains a "positive trends" segment that starts with a major international meeting that was significant to that major group, continues with information on areas where a forward motion could be observed, and concludes with other general positive trends that are applicable. Each section also contains an "unfulfilled expectations" segment that provides information on objectives for which no forward or else backward motion could be observed, as well as other information related to negative trends affecting progress on the chapter's objectives.

A. Chapter 24: role of women

9. Chapter 24 has eight objectives, two of which have time-bound targets. The general thrust of the objectives is to enhance the role of women at all levels of sustainable development decision-making. Specific objectives concern the vehicles for achieving that goal, such as Governments and international organizations giving a priority to hire or appoint women for decision-making positions; developing education materials that promote gender-relevant knowledge; and formulating national frameworks or adopting national legislation

that protect and enhance women's rights to education, health or property. Two time-bound targets are on developing a strategy to eliminate obstacles to women's full participation by the year 2000, and establishing mechanisms to assess impact of relevant policies and programmes by 1995.

Table 1. Progress in achieving chapter 24 objectives

Objective	Direction	Comments[a]
Increase in number of women decision makers	→	There is some increase at international and national levels; however, the rate of change is small and further action is necessary
Gender-relevant education and materials	→	Various United Nations agencies and other international organizations have developed such materials; their actual use in curricula is unknown
Frameworks: formulation	→	A framework to advance women exists in most countries
Frameworks: implementation	←	Most frameworks that exist are not being implemented
Assessing impact of projects on women	•••••	Known impact assessments procedures do not specifically require assessment of impact on women
Strategy to eliminate obstacles (by year 2000)	→	A strategy or an intent to formulate one exists in most countries
Strategy implementation	?	Yet to be seen

Key: → forward; ← backward; ••••• unchanged; ? unclear.

[a] See text for more details.

1. Main positive trends

International meetings

10. The Fourth World Conference on Women (Beijing, 4-15 September 1995) was a watershed event for women around the world. The preparations and the event itself mobilized women at all levels. An estimated 30,000 participants represented thousands of women's organizations with millions of members. The preparation process educated the world community, raised public awareness and mobilized public concern regarding the difficulties that continue to face women.

11. Chapter IV K of the Beijing Platform for Action includes actions and objectives that build on those of chapter 24 of Agenda 21. The Platform for Action is an excellent framework through which, if implemented, the objectives of Agenda 21 can be realized. Among other things, it re-emphasizes the need to create a new development paradigm that integrates environmental sustainability with gender equality and justice within and between generations, and provides a framework for integrating the roles, needs and priorities of women with other global issues, such as health, urban and rural development, and nutrition.

Women in decision-making at the national level

12. Agenda 21 emphasizes the need to increase the numbers of women in decision-making positions in general rather than in sustainable development related areas alone. The basic premise is not that women in decision-making positions will make different kinds of decisions than men but that their access and impact on political and economic decision-making will empower them politically, economically and socially. The Beijing Platform for Action recognizes that national machinery for the advancement of women has been established in almost every United Nations Member State. Figures show increases in the number of women in decision-making positions. In the public sector, for example, the number of women ministers doubled between 1987 and 1996 (from 3.4 to 6.8 per cent). In some regions, the increase is more than twofold. For example, in Latin America and the Caribbean, the percentage of women ministers in the Government increased from 3.1 per cent in 1987 to 10 per cent in 1996. The breakdown by sectors shows that, on the average, the largest increase in women appointed to ministerial positions took place in the social sector (from 7.9 to 14 per cent) followed by the legal sector (from 4 to 9.4 per cent).[3]

United Nations efforts to increase women in decision-making positions

13. As mentioned above, placing women in decision-making positions in international organizations is considered to be a part of the process to empower women in general. An administrative decision taken in 1994 to improve gender equality in the staff tables of the United Nations Secretariat is being implemented. The Secretariat's target is to achieve 50/50 gender parity by year 2000. An interim target of the strategy was 35 per cent in the lower Professional categories and 25 per cent in the higher (D-1 and above) levels by the end of 1995. As of June 1996, the 35 per cent target has been achieved, although the increase in the higher Professional categories remains below target levels at 17.9 per cent (see A/51/304).

Gender-relevant education and training

14. United Nations and non-United Nations agencies continue to focus on gender awareness within their workforce, as well as in their field projects. During the 1992-1997 period, all United Nations agencies and regional commissions reported on their efforts to conduct in-house gender awareness training, and develop gender awareness education materials for use in-house as well as in their projects. The international organizations that run field projects are increasingly convinced that women are significant agents for local change, and must be increasingly involved in designing and managing projects. Some agencies pursue that objective despite political and cultural obstacles at the country

level. Although those efforts are not taken in response to Agenda 21, they have a direct impact on achieving its objectives.

National adoption of international frameworks and strategies to eliminate discrimination

15. According to information available from the Committee on the Elimination of Discrimination Against Women, as of October 1996, 154 countries have ratified the Convention on the Elimination of All Forms of Discrimination against Women,[4] and several countries have signed but have not yet ratified the Convention. A universal ratification of the Convention is hoped to take place by year 2000. The main contribution of the Convention to sustainable development issues is the recognition that the welfare of the world requires the maximum participation of women on equal terms with men in all fields.

Facilitation by networks of women's organizations

16. The work of women's organizations to facilitate Agenda 21 follow-up has been crucial. A women's caucus has been active in the Commission process from its inception. The Women's Environment and Development Organization has been facilitating links between women's organizations and the Commission, as well as other United Nations bodies. That organization and a number of national or local women's groups, such as the Country Women's Association of Nigeria, have also been instrumental in information dissemination and capacity-building for Agenda 21 follow-up among local and national organizations of women.

Evolution of the gender perspective

17. The approach to women's issues has moved from protecting vulnerable groups to formulating demands for the full recognition of women as partners in society. Today, many women's organizations find the term "vulnerable" old-fashioned. They feel that as women's role in the global economy changes, their political power, role and access should change equally, and that references to the important role of women in international documents and agreements are only words unless they generate tangible action that helps women.

2. Unfulfilled expectations

18. Despite the above-mentioned positive trends, there is much to be done to fulfil the goals of chapter 24. Implementation of chapter 24 objectives is particularly important given that it is usually women who manage local-level resources, educate the young or care for family health in a majority of the world's communities, particularly in the developing countries. Hence, improving women's access to decision-making processes is a prerequisite to achieving sustainability.[5]

19. According to the Beijing Platform for Action, women still represent only 10 per cent of all elected legislators worldwide. They remain underrepresented in most public and private administrative structures at the national and international levels. Furthermore, approximately 60 million girl children are without access to primary schooling, and more than two thirds of the world's

960 million illiterate adults are women. Current education materials, as well as access of young women to education, remain gender-biased.

20. Despite ongoing efforts for change, gender balance in the staffing tables of international organizations remains below the established target levels. In fact, proposals have been made to revise those targets to "more realistic" levels.[6] But even revised targets are not likely to be achieved without concerted effort by the United Nations and its Member States.

21. A national and local-level priority in the next phase should be to translate the language of the various national strategies on women into tangible reality. At present, existing national mechanisms to advance women are uneven in their effectiveness, and some are declining in importance on the list of national priorities. Implementation of such national strategies may assure a higher chance of success if governmental institutions work in closer partnership with national and local organizations of women, and if gender issues are seen in the context of women's rights.

B. Chapter 25: role of children and youth

22. Chapter 25 objectives focus on (a) access of children and youth in sustainable development decision-making processes, and (b) providing the means to empower young people. Specific objectives include establishing mechanisms for government-youth dialogue at the national level; promoting youth involvement in United Nations processes; taking the interests of children and youth fully into account in sustainable development; launching initiatives to reduce youth unemployment; and providing youth with legal protection, skills and opportunities to fulfil their potential. One time-bound objective is to ensure access to appropriate secondary education for half the youth in each country by the year 2000.

Table 2. Progress in achieving chapter 25 objectives

Objective	Direction	Comments[a]
Dialogue with children and youth	→	Some effort exists to increase access of youth and children to national institutions; further action is still needed
Reducing youth unemployment	←	Figures for youth unemployment continue to be in two digits in many developed and developing countries
Involvement in United Nations processes	→	Special efforts made by the Commission on Sustainable Development and other United Nations bodies; there is a need to make such efforts more consistent and reliable
Participation in decision-making	?	It is not clear whether the views of children and youth are included in decision-making; some youth are included in national sustainable development coordination mechanisms
Legal protection	←	Instances of child labour, child abuse, and violence against children and youth appear to be increasing

Key: → forward; ← backward; ••••• unchanged; ? unclear.

[a] See text for more details.

1. Main positive trends

Youth participation in international conferences

23. Youth groups participated actively and vocally in the World Summit for Social Development, the International Conference on Population and Development, the Fourth World Conference on Women and the United Nations Conference on Human Settlements (Habitat II). Their contributions to Habitat II received particular recognition for both their quality and quantity. Among other contributions, youth participants at the above-mentioned conferences effectively linked sustainable development with specific conference agenda items, and promoted Agenda 21 as the umbrella framework for all future development efforts. The second World Youth Forum of the United Nations System (Vienna, November 1996) was a recent youth meeting, with a particular focus on enabling better partnerships between young people and United Nations system organizations.

Special programming to increase access of children and youth to the Commission

24. The Commission has played a role in increasing the role of youth at the international level, with some effect at the national level. Starting in 1994, the Commission provided several special occasions to increase the participation of young people in its work. An important step in that process was the Youth Inter-sessional (YI) project.[7] The project demonstrated the depth and sophistication of young people's views, experiences and skills in furthering sustainable development, and reinforced the opinion that for future success in achieving Agenda 21 objectives an increasing level of youth access to decision-making processes at all levels will be essential.

New cooperation and access mechanisms at the national and international levels

25. The YI project, as well as other efforts to mobilize young people, such as the second World Youth Forum, the Green Campus Programme of the International Institute for Sustainable Development in universities, the Voices of Youth project of the United Nations Children's Fund (UNICEF) on the Internet, youth participation in Habitat II, and the United Nations Environment Programme (UNEP) global youth forums and Global 500 Youth Environmental Awards programme, have shown that young people can and should play a leading role in sustainable development partnerships. Such projects not only help link young people with each other and United Nations organizations but also provide them with a mechanism that helps their activities to be noted and even supported at the country level. For example, as a result of the YI project, the Governments of Benin, Canada, Finland, Gambia, Ghana, Senegal and Sierra Leone have appointed young people from the Rescue Mission network to distribute the youth indicators kits developed in the YI process and use them in preparing youth evaluations of sustainable development progress.

Youth-led activities at the local, national and regional levels

26. Children and young people take on sustainable development activities independent of United Nations organizations or national bodies. Many of those efforts go unnoticed at the international level due to insufficient flow of information between local or national youth groups and the national or

international institutions that monitor sustainable development efforts. However, they make an impact at the local and national level by raising awareness, educating people of all ages and taking direct action on sustainable development issues. Among such efforts are Children's Forests in Honduras, the Environmental Watchers Association in Nigeria, Wildlife Clubs in Kenya, Kids for Coral on the island of Guam and Global Kids in the United States. Most of those efforts have an integrated outlook on sustainability dealing with both local environmental conservation issues and local social problems, such as poverty and homelessness.

2. Unfulfilled expectations

27. Although there are examples of improving youth access and participation in sustainable development, the broader situation of the world's children and youth is a disappointing scenario. A large percentage of the world's youth and children do not have access to adequate health, nutrition, education and shelter. According to projections made by the United Nations Educational, Scientific and Cultural Organization (UNESCO), out-of-school youth between the ages of 12 and 17 will increase in sub-Saharan Africa, the Arab States and South Asia by 60, 15 and 70 million children, respectively, by the year 2025.[8] In many developing countries and in some developed countries, large percentages of young people are poor.[9] In large cities in industrialized countries, many inner-city children attend schools that lack teachers, sanitation facilities, and personal security against gangs and drug use.

28. Although youth unemployment continues to be a problem in both developed and developing countries,[10] illegal child-labour is on the increase, with children as young as 6 years old working full days. According to the International Labour Organization (ILO), one child out of every three in Africa is involved in some form of economic activity.[11] A 1994 survey by the ILO in Ghana, India, Indonesia and Senegal showed that 25 per cent of children and youth between the ages of 5 and 14 work; for one third of that number, work is a primary activity. Monitoring illegal child-labour practices in both small and large businesses will require governmental and intergovernmental efforts to enforce international agreements and national legal frameworks. The codes of conduct developed in that area by industry, in cooperation with governmental institutions, do work when all parties are committed to their implementation.[12]

29. Another unfavourable trend for protecting the rights of children and youth is the increasing incidence of child abuse, including sexual exploitation of children and young people, in both developed and developing countries. Although there are few statistical studies, numerous accounts have been published and observations made in dozens of countries by government agencies, international organizations, journalists and non-governmental organizations.[13] The child sex trade is a growing health threat to young people (through the spread of the acquired immunodeficiency syndrome (AIDS) and other sexually transmitted diseases), and it often involves physical and other forms of violence against minors. Furthermore, such trade is contrary to international law, is morally reprehensible and is a serious impediment to building trust between generations.

30. The source of the problems mentioned above is not lack of global consensus on the importance of providing adequately for today's children and youth but lack of action. Numerous international and national frameworks testify to the global political consensus on protecting the health, education and other rights of children and youth. Those frameworks, however, are not consistently implemented. When young people and children are given access to decision-making and support to build their own capacity, they are able to organize themselves constructively under the most difficult circumstances. However, for that creative potential to grow, governmental, intergovernmental and non-governmental institutions at the national, regional and international levels need to make an effort to become accessible to young people and aim to serve their needs.

C. Chapter 26: role of indigenous people

31. The main objective of chapter 26 is to establish full partnerships between Governments, international organizations and indigenous people.[14] Proposals to achieve the main objective include establishing processes that empower indigenous people; strengthening the active participation of indigenous people in the formulation of national policies related to resource management; and involving indigenous people at the national and local levels in programmes related to sustainable development. The latter includes establishing appropriate national policies and legal instruments; protection of indigenous lands from environmentally unsound activities; recognition of indigenous values, knowledge and resource management practices; development of national dispute settlement arrangements; and enhancement of capacity-building for indigenous communities.

Table 3. Progress in achieving chapter 26 objectives

Objective	Direction	Comments[a]
Empowering indigenous people	•••••	Although efforts by major groups, organizations, United Nations agencies and some Governments exist, overall efforts in this area appear to be inadequate
Participation in national decision-making	•••••	The issue is directly linked with legal rights of indigenous people, which remain unsatisfactory for the majority of indigenous people
National and local sustainable development programmes	?	It is not clear whether indigenous people are part of national programmes; their independent efforts in this area are not well known due to the lack of regional/international indigenous networks for disseminating information

Objective	Direction	Comments[a]
National legal instruments	←	The legal instruments that exist are not adequately enforced to achieve their intended results; cases have been cited of relevant national legislation appearing to be ignored in favour of economic or business interests
Protection of indigenous lands	•••••	The overall environmental state of indigenous lands continues to be less than desirable; there may even be a negative trend in some regions
Recognizing indigenous knowledge and values	→	Values are recognized in international and national documents and processes; however, the forward motion indicated here should be viewed with caution since such recognition has yet to prove its impact
National dispute settlement mechanisms	?	Not clear whether they exist or work as intended
Capacity-building	→	Programmes by United Nations agencies and some Governments exist; greater collaboration is needed with indigenous peoples' organizations

Key: → forward; ← backward; ••••• unchanged; ? unclear.

[a] See text for more details.

1. Main positive trends

Inter-sessional meeting of indigenous peoples

32. The Inter-sessional Workshop on Indigenous Peoples and Forests (Leticia, Colombia, 9-13 December 1996) was an important government-sponsored inter-sessional meeting with an exclusive focus on indigenous people.[15] The meeting adopted the Leticia Declaration, which includes numerous recommendations to the fourth and final session of the Intergovernmental Panel on Forests and its follow-up. The Declaration focuses primarily on the full participation of indigenous people in the assessment of underlying causes of deforestation, in the development of forest and sustainable development-related criteria and indicators, and in future international mechanisms dealing with forests. In addition, the meeting adopted several action-oriented proposals, including the establishment of a world indigenous university staffed and administered by indigenous people.

Empowerment through special focus in the United Nations system

33. The Decade of the Indigenous Peoples, launched in January 1996, comprises a series of activities, ranging from special studies to meetings and exhibitions, that aim to increase the access of indigenous people to the United Nations and increase awareness about issues facing them. The Decade's activities, focusing on the motto "Towards new partnerships", are coordinated by the United Nations Centre on Human Rights. The Decade is seen as a background to the adoption of international frameworks that recognize rights of indigenous peoples around the world, particularly the draft declaration on the rights of the indigenous peoples, which is currently being prepared by the Commission on Human Rights.[16] Significant dimensions of the draft declaration are self-determination and land rights, including the rights to manage natural resources, to know the environmental impact of economic or other activities and to receive compensation for mitigating the environmental impacts of activities in indigenous territories. Several clauses of the draft declaration, such as draft articles 29 to 31, are directly related to Agenda 21 issues.

Empowering actions of indigenous people themselves

34. A model example of an indigenous community's self-organized effort for sustainable development was the Haudenesaunee Strategy for Sustainable Development, launched in 1994. The Strategy was developed by indigenous people who live in the Great Lakes region spanning the north-eastern United States of America and south-eastern Canada. The effort was supported by UNEP and Indigenous Development International, a non-governmental organization located in the United Kingdom of Great Britain and Northern Ireland. The Strategy is one of the few developed by indigenous people exclusively in response to Agenda 21. Another process that involves a high level of indigenous peoples' participation is the discussion of the draft declaration in the Centre for Human Rights of the United Nations Secretariat. More than 100 indigenous peoples' organizations have been actively involved in and have influenced that process.

National and international efforts to build capacity

35. In some countries, national Governments have offices or programmes that focus on indigenous issues. Agenda 21 requires that United Nations bodies also appoint staff as focal points in order to better service the world's indigenous communities. The United Nations Development Programme (UNDP), the ILO and the Centre for Human Rights are among the United Nations bodies that have special programmes and focal points assigned to work on indigenous peoples issues. The World Bank and UNDP have internal guidelines that require local projects to include indigenous people in implementation and monitoring.

Sectoral participation of indigenous people

36. Like many other major groups, indigenous people have limited resources and hence prefer to focus their efforts on forums in which practical issues are discussed. International processes dealing with loss of biodiversity (Convention on Biological Diversity), deforestation (Intergovernmental Panel on Forests) and desertification (United Nations Convention to Combat Desertification in those Countries Experiencing Drought and/or Desertification,

particularly in Africa) involve a higher level of indigenous peoples' participation, partly due to higher expectations for tangible action under those legally binding international instruments. The Convention on Biodiversity, in particular, involves issues that are directly relevant to indigenous communities, such as indigenous rights to their genetic heritage.

2. Unfulfilled expectations

37. It is estimated that there are 300 to 500 million indigenous peoples in the world. They live in both the developed and developing countries, and have different economic, environmental and social needs, depending on where they live. Many have adapted to the larger society in which they live, and take part in its culture, education systems and economic life. However, the need for legal rights to their territories is a common thread running through this highly diverse group of people. For many indigenous people, the resolution of the territorial rights issue is the first and most crucial step that must take place before they can play a meaningful role in sustainable development.

38. A growing concern among indigenous people is related to genetic research. For many scientific institutions and private companies, the human as well as plant and animal genetic pool in indigenous territories is a wealth of information. Many private-sector entities are documenting, classifying and often patenting such information for later commercial or scientific use. In many cases, those activities are carried out without the consent of the indigenous people involved. In most cases, no profit-sharing agreements are made to allow the indigenous people to benefit from the commercial uses of the genetic information collected from their community or their land.

39. To many indigenous peoples' organizations, the adoption of a declaration on the rights of the indigenous peoples will be a start to addressing those issues. If adopted, the draft declaration is expected to recognize indigenous self-determination and land rights, providing a solid basis for the increased role and contribution of indigenous people in sustainable development. However, progress towards the adoption of the draft declaration has been slow.

40. The lack of information that is accessible, relevant and useful is a continuing problem that negatively affects the role and contribution of indigenous people. Most indigenous people are interested in and capable of making the local-national-international link if they have adequate, timely and accessible information on international processes and national programmes. A directly related problem is the lack of information in languages spoken by indigenous people. Although the role of intermediary non-governmental organizations is often proposed as a solution, the growing distrust between indigenous people and "conservation non-governmental organizations" is an obstacle that needs attention.

41. There is also a continuing lack of self-organized networks that can effectively mobilize indigenous people around national and international sustainable development decision-making processes. In the context of the Commission on Sustainable Development, special efforts, such as organizing a day of the indigenous people at a future Commission session, may help mobilize

indigenous people as well as Governments, international organizations and other major groups around the objectives of chapter 26.

42. A draft proposal by the World Wide Fund for Nature (WWF) contains elements for addressing some of the above-mentioned issues. WWF proposes that the Department for Policy Coordination and Sustainable Development of the United Nations Secretariat coordinate an inter-agency task force on indigenous people, composed of representatives from the secretariats of the Convention on Biological Diversity, any follow-up to the Intergovernmental Panel on Forests process, the Centre for Human Rights and other relevant United Nations bodies. The task force could oversee the respective processes in a coherent way, harmonize existing and future mechanisms for the participation of indigenous peoples in those forums, and liaise with indigenous and other peoples' organizations. A consultative body made up of indigenous peoples' representatives on a regionally and culturally balanced basis could support the task force by being the liaison with indigenous peoples' communities. That proposed mechanism has the potential to provide a central coordination structure to deal with indigenous issues in the holistic manner demanded by indigenous peoples.

D. Chapter 27: role of non-governmental organizations

43. The four objectives of chapter 27 focus on developing mechanisms that allow non-governmental organizations to play their partnership role effectively; review by the United Nations system of formal procedures and mechanisms for the involvement of non-governmental organizations in policy and decision-making, as well as in implementation; and the participation of non-governmental organizations in the national and international review of Agenda 21 implementation. Chapter 27 has one time-bound objective, for establishing a mutually productive dialogue for sustainable development at the national level between Governments and non-governmental organizations by 1995.[17]

Table 4. Progress in achieving chapter 27 objectives

Objective	Direction	Comments[a]
Partnership mechanisms	→	There are numerous examples of partnerships between Governments, United Nations bodies and non-governmental organizations, as well as partnerships among non-governmental organizations, including between international and local non-governmental organizations and between northern and southern non-governmental organizations
Review of formal arrangements	→	The Economic and Social Council completed such a review in 1996; the review expanded the scope of formal arrangements but did not reach agreement to include the concept of major groups in the revised text

Objective	Direction	Comments[a]
National participation	→	Most national sustainable development coordination mechanisms include non-governmental organizations more than any other major group; however, their impact on national decision-making is not clear
Non-governmental organizations/ Government dialogue	?	The partnerships that exist do not provide sufficient evidence that meaningful dialogue is taking place

Key: → forward; ← backward; ••••• unchanged; ? unclear.

[a] See text for more details.

1. Main positive trends

Partnerships between northern and southern non-governmental organizations

44. As bilateral and multilateral assistance decreases, partnerships between southern and northern non-governmental organizations have a more vital role in sustainable development efforts, including to provide creative alternatives. Among the emerging alternatives are funding through ethical investment sources and micro-credit schemes. There is also a greater interest in the way North-South non-governmental organization partnerships are established, particularly under the topic of governance. Such partnerships are also moving towards greater accountability and transparency among partner organizations.

Partnerships through networks at the national and international levels

45. The clear focus, strong commitment and flexible institutional arrangements that characterize non-governmental organizations enable them to establish strategic alliances with groups and individuals around the world on specific issues. In the last five years, numerous non-governmental organization networking efforts have taken place in the Commission on Sustainable Development process and related forums. The Commission's Non-Governmental Organizations Steering Committee, the Réseau international des organisations non gouvernementales sur la desertification (RIOD), and the Climate Action Network are recognized as cases of good practice .

46. National network non-governmental organizations have been particularly constructive in generating a broad-based participation and high level of awareness on sustainable development issues at the country level. The work of UNED-UK/United Nations Environment and Development-United Kingdom Committee and Peoples' Forum 2001 in Japan have been recognized by other non-governmental organizations and international organizations.[18] National networks, if supported and strengthened, have the potential to be the best-placed mechanisms for follow-up to international conferences.[19] Support for national network non-governmental organizations is particularly important in the next phase of

Agenda 21 follow-up, in which international conferences, which have been the traditional mobilizing factor for national networks, will be largely missing.

Partnerships in national Agenda 21 activities

47. Environment and development non-governmental organizations are the most frequent participants relative to other major groups in the national councils for sustainable development. Non-governmental organizations are also increasingly working in partnership with governmental and intergovernmental institutions to design and develop projects, as well as implement and monitor them at the national level. Some have also gained access to the preparation of national reports to the Commission, and their inputs have been highlighted in national presentations made to the Commission at its third and fourth sessions. A growing number of international non-governmental organizations are also functioning as development agencies at the national level through bilateral arrangements made directly with countries or through United Nations bodies.

Innovative partnerships under thematic issues

48. A model case of innovative action by non-governmental organizations was the evolution of the "mountain agenda". The issue actually became a chapter in Agenda 21, primarily as a result of non-governmental organization action at UNCED, and evolution of the issue has continued to benefit primarily from consultations organized by non-governmental organizations. In the 1994-1996 period, consultation meetings included a global meeting in Lima (February 1995) and numerous national or subregional meetings. The Mountain Forum coordinates activities through regional focal points, and regional networks are being established. The focus of those efforts is an emphasis on the participation of local populations and community groups in identifying and planning mountain development activities. In addition, links with mountain research and development interests, intergovernmental bodies and scientific organizations provide the basis for furthering broad-based partnerships on the mountain agenda.

Reviewed formal arrangements

49. A review of formal arrangements for non-governmental organization participation was completed in 1996 by the Committee on Non-Governmental Organizations of the Economic and Social Council. The revised arrangements, adopted as Council resolution 1996/31, have opened applications for consultative status to national and regional non-governmental organizations, which is particularly significant for Agenda 21 follow-up given its emphasis on local, national and regional action in sustainable development. The broader scope that is now allowed for non-governmental organization accreditation applications is likely to increase both the quantity and quality of non-governmental inputs to the Commission and other forums reporting to the Council.

2. Unfulfilled expectations

50. The lack of direct participation in the Commission process, in other intergovernmental forums and at the national level has been a concern expressed by some non-governmental organizations. At the international level, most non-governmental organizations recognize the openness and accessibility of the Commission itself but are increasingly looking towards more meaningful forms of participation that enable them to make a direct impact on sustainable development decision-making.

51. Both national and international non-governmental organizations also feel that their growing role and contribution in environmental and other economic and social fields is not matched by equal growth in financial, political and technical support from Governments and international organizations. That concern is particularly acute for national and local non-governmental organizations from developing countries. Given the need for transparent and broad-based participation in sustainable development and the potential of non-governmental organizations for generating such processes, funding for effective consultative mechanisms rather than project-driven funding could be a useful approach.

52. Those non-governmental organizations that are active at the international level, including in the Commission process, are seeking information in a greater number of languages. Availability of information in different languages is less a function of the willingness to produce them than of a lack of financial resources. Information in different languages is particularly crucial for national non-governmental organizations and non-governmental organizations in regions in which English is not a widely understood language.

53. Building capacity within non-governmental organizations is also an area of priority for both international and national partnerships and for partnerships between non-governmental organizations and other major groups. As non-governmental organization contributions become increasingly recognized, expectations have risen for high-quality non-governmental organization information and expertise. High-quality, reliable and solution-oriented inputs from non-governmental organizations are particularly necessary in the next phase of Agenda 21 follow-up, in which focus is to be on action, implementation and measuring successes. In that context, greater involvement of local, national and international non-governmental organizations in developing, testing and mastering the use of sustainable development indicators will be essential.

E. Chapter 28: role of local authorities

54. The emphasis of chapter 28 of Agenda 21 includes (a) for local authorities to undertake a consultative process towards achieving consensus on a local Agenda 21 by 1996; (b) for the international community to initiate a consultative process to increase cooperation between local authorities by 1993; (c) for the association of cities and other local authorities to increase their cooperation and coordination by 1994; and (d) for all actors to encourage local authorities to implement and monitor programmes that aim to ensure the participation of women and youth in local decision-making.

Table 5. Progress in achieving chapter 28 objectives

Objective	Direction	Comments[a]
Consultations on local Agenda 21s	→	The local Agenda 21 process has moved from being a project to a movement: over 1,500 local authorities are confirmed to have a local Agenda 21 in progress, and others are developing similar frameworks
Cooperation among local authorities	→	International associations of local authorities help their members to link with and learn from each other. The United Nations Centre for Human Settlements (Habitat) and UNDP are among supporting United Nations bodies. Some cooperative efforts of cities focus on specific issues, such as Cities for Climate Change
Cooperation among local authority associations formulation	→	Positive cooperative arrangements among international organizations of local authorities are ongoing
Participation of women and youth in local Agenda 21 programmes	?	In some cases, local Agenda 21 design and implementation involve women and youth, as well as other major groups; however, there are cases where this issue needs further effort

Key: → forward; ← backward; ••••• unchanged; ? unclear.

[a] See text for more details.

1. Main positive trends

Local Agenda 21 movement

55. Between 1992 and 1996, local Agenda 21s[20] have become a global movement. The preliminary results of the first worldwide local Agenda 21 survey, carried out jointly by the International Council for Local Environmental Initiatives (ICLEI) and the secretariat of the Commission, confirmed a total of 1,500 local Agenda 21s, with hundreds more in the making. Local Agenda 21 cities exist throughout the world, in countries as diverse as Canada, India, Peru and Sweden. The survey also showed that Agenda 21 follow-up by local authorities is most successful when a national association of local authorities exists, when it has launched a national campaign supporting local Agenda 21 efforts,[21] and when those actions are supported by the existence of a national Agenda 21 campaign launched by the national Government.[22] Those findings point to critical success factors that will need to be promoted in the next phase of Agenda 21 follow-up.

Cooperation and consensus-building through local Agenda 21

56. Cooperative arrangements with other major groups, international organizations and Governments differ in the local Agenda 21s movement. In Sweden, for example, local authorities are supported by national Government efforts in public education and information dissemination.[23] In the United Kingdom, widespread local Agenda 21s are supported by national non-governmental organization networks and national networks of local authorities.[24] Community participation is a strategic element in most local Agenda 21 programmes, such as the local Agenda 21 of Cajamarca, Peru.[25] The experience of partnerships between the United Nations Centre for Human Settlements (Habitat) and the cities of Nakuru, Kenya, and Essaouira, Morocco, among others, show similar results, revealing both the importance of local Agenda 21s as a consensus-building tool at the local level and the strategic importance of community participation.

Institutional changes at the local level

57. One great challenge posed by sustainable development to existing institutions is in its demand for integrated approaches and institutional mechanisms. The concept challenges local governments, which are traditionally organized along departmental, statutory and procedural lines that are separate and often competing. The greatest impact of the local Agenda 21s process on local institutions has been in terms of the establishment of multisectoral planning bodies, the creation of community consultation processes, the formation of interdepartmental units for assessment and monitoring, and statutory developments that are linked with the goals of local Agenda 21s. That institutional preparation provides a strong basis for the next phase of local action on Agenda 21, such as replication at the national level. According to information received from Habitat, a number of cities, in Egypt, the United Republic of Tanzania and Chile are in the process of transferring their city-level experience - gained through their involvement in the joint Habitat/UNEP Sustainable Cities Programme - to the national level.

Move towards implementation and measuring impact

58. The purpose of launching a local Agenda 21 for local authorities is not to develop well-meaning documents but to make a significant change in the sustainable development of the community. Regional consultations of local authorities organized by ICLEI during 1996 showed that local authorities are already focused on what needs to be done in the next phase of Agenda 21 implementation. Their future plans focus on (a) developing ways to measure whether local Agenda 21s are having the impact they are designed to, and (b) continued efforts to expand the local Agenda 21 effort throughout the world. The work in the next phase of Agenda 21 follow-up is based on the single but powerful question: "Has the Earth noticed?".

Impact on other related forums and issues

59. Local authority activities on Agenda 21 follow-up have also incorporated local action and have contributed to the implementation of other global frameworks, such as the Cities for Climate Change programme, which involves local action in support of achieving the requirements of the United Nations

Framework Convention on Climate Change. The programme involves 150 municipalities, whose combined greenhouse gas emissions constitute as much as 5 to 10 per cent of the world total. Among the various projects of the programme, the Urban Carbon Dioxide Reduction Project involves 14 cities that have made a commitment to reduce their emissions by 10 to 20 per cent per year over the next 10 years.

2. Unfulfilled expectations

60. The local Agenda 21 experience demonstrates what is possible at the local level through the commitment of local authorities. Maintaining and expanding that highly successful process will require not only political support and incentives but also economic and technical support from national Governments, particularly given the decentralization trends that reduce resource-sharing possibilities between local and central governments.

61. If local action is the basis of sustainable development, future decisions on political and economic resource allocation at the national level will need to give priority to supporting local authorities. The next phase of Agenda 21 follow-up will benefit from central government support for local authorities through continued human resources development, the creation of better employment conditions and equitable resource flows from higher levels of government.

62. Support from other major groups, particularly from network non-governmental organizations and the private sector, is also needed. Although partnerships between private-sector actors and local authorities exist, they are limited to a small number of cities and businesses. The network non-governmental organizations, through their information dissemination and awareness-raising efforts, provide an excellent educational support structure to the efforts of local authorities by helping to increase local awareness and readiness to tackle difficult sustainable development decisions.

63. Associations of local authorities will also need support to disseminate the lessons learned from their local Agenda 21 experiences around the world. The Habitat II process and the best practices database it generated has helped other local authorities to learn from their peers involved in local sustainable development efforts. That database and other similar efforts, such as the Urban Environment Forum,[26] need to be supported to continue with their information-sharing services.

F. Chapter 29: role of workers and trade unions

64. Chapter 29 has two main objectives that focus on the full participation of workers in Agenda 21 implementation. Several targets are put forward, including promoting the ratification of ILO conventions; establishing bipartite and tripartite mechanisms on safety, health and sustainable development; increasing the number of environmental collective agreements; reducing occupational accidents and injuries; and increasing workers' education and training efforts by the year 2000.

Table 6. Progress in achieving chapter 29 objectives

Objective	Direction	Comments[a]
Full participation of workers in Agenda 21 implementation	•••••	Workers and trade unions have taken action at the workplace; however, it is not clear whether they are fully included in governmental or enterprise-level decision-making processes
Establishing partnership mechanisms	•••••	Some cases exist; however, further data is necessary to assess existing partnership mechanisms
Increasing number of environmental collective agreements	?	There are some instances of environmental clauses in collective agreements, but it is not clear whether sustainable development is a significant part of such agreements
Reducing occupational accidents and injuries	?	Where regulations and voluntary health and safety programmes have been established and enforced, accidents and injuries tend to decrease; however, overall figures are not readily available
Increasing workers' education and training efforts	→	Workers, as well as many businesses and relevant international organizations, conduct education and training on sustainable development in the workplace

Key: → forward; ← backward; ••••• unchanged; ? unclear.

[a] See text for more details.

1. Main positive trends

Participation of workers and trade unions in the Commission through special events

65. The Day of the Workplace, organized in connection with the fourth session of the Commission, provided a forum for trade unions to discuss a number of case studies of labour union efforts for Agenda 21 follow-up. The Day was organized by a steering committee of several major group organizations from business and trade unions, as well as two United Nations bodies (the ILO and UNEP) and the Commission secretariat. The International Confederation of Free Trade Unions (ICFTU) was the labour representative on the committee; it organized the labour segment of the case studies, as well as the Day of the Workplace Panel. For the Day, trade unions from Australia, Finland, Germany, the Philippines, Sweden, the United States of America, and Zimbabwe prepared case studies on a range of

issues, from collective bargaining for environmental protection to green jobs in industry.

Education programmes by trade unions

66. A number of examples exist of workers and trade unions running sustainable development education and training programmes for themselves and for their greater communities. ICFTU, as the largest international workers' organization, has produced numerous packets of education materials in accessible formats and multiple languages.[27] Some national trade unions have sophisticated sustainable development training programmes that include cost-sharing with employers and cooperation with national authorities.[28]

Participation of workers in Agenda 21 implementation

67. Trade unions have responded to the sustainable development challenge within their workplace and their communities, despite the general view that sustainable development efforts may mean unemployment for workers as unsound production processes are phased out. Many trade unions see sustainable development as an opportunity for creating jobs while protecting the social and environmental fabric of life.[29] In some cases, workers have identified sustainable development as a rapidly growing industrial sector in which workers should play a strategic and proactive role.[30]

Partnerships with employers

68. For workers, successful sustainable development actions should make an impact on strategic business decisions. Including sustainable development issues into agreements and collaborative efforts with employers is one of the resulting strategies. The social partnership project carried out by the German Chemical Workers' Union and the German Chemical Industry enabled agreements that led to works councils, which involve workers in the administration of company welfare. Consultation on such issues as technological change within companies is mandatory, and employers meet with the works council regularly.

2. Unfulfilled expectations

69. For workers and trade unions, employment generation, poverty eradication, effective changes in consumption and production patterns with the full involvement of workers, the education and training of workers for sustainable development in the workplace, and effective partnerships in the workplace are all fundamental to achieving sustainable development.

70. In a report submitted on behalf of the millions of its member workers, ICFTU expressed concerns about those issues, particularly with respect to the insufficient attention paid to them in the Commission. The ICFTU report asserts that the process promoted by the Commission on Sustainable Development is important and must continue, and recommends that Governments continue to support the work of the Commission. However, it also recommends that the future work of the Commission deal more effectively with the fundamental issues of concern to workers.

71. Information received from ICFTU indicates that public participation, which is encouraged and promoted by the Commission, is yet to become a reality for many workers and trade unions around the world. The report lists statistics of workers who have faced life-threatening consequences as a result of their efforts to promote sustainable development in the workplace.[31] To enable the kind of workers' participation envisioned in Agenda 21, concrete steps are necessary to strengthen workers' rights to assemble, participate and take action.

72. Enabling meaningful workers' participation in the workplace is also seen as a way to increase the effectiveness and accountability of voluntary sustainable development efforts in the private sector. To workers and trade unions, employment creation is the most effective means with which poverty and unsustainable forms of development can be addressed. Promoting green jobs, eliminating taxes that create disincentives to employment and paying special attention to the needs of women, youth and disadvantaged groups should be integral to future national strategies on Agenda 21 follow-up.

G. Chapter 30: role of business and industry

73. The three objectives of chapter 30 focus on the role of business and industry in (a) cleaner production and (b) responsible entrepreneurship. Under the first area, Governments, business and industry, including transnational corporations, are asked to increase the efficiency of resource use, including the reuse, recycling and reduction of waste per unit of economic output. The second area involves encouraging the concept of stewardship in management and the use of natural resources by entrepreneurs, and increasing the number of enterprises that subscribe to and implement sustainable development policies.

Table 7. Progress in achieving chapter 30 objectives

Objective	Direction	Comments[a]
Increasing efficiency of resource use	→	Where environmentally management systems have been put in place, there is invariably a gain in resource efficiency; the overall gain worldwide, however, is below targets and expectations
Encouraging the concept of stewardship	→	Several business organizations, as well as business schools, have taken steps to encourage the environmental stewardship concept
Increasing number of enterprises that subscribe/implement sustainable development policies	→	The number of businesses that have adopted the Business Charter for Sustainable Development has increased, and environmental management practices at the enterprise level are increasing; the number of enterprises involved, however, is still only a small percentage of the world's businesses

Key: → forward; ← backward; ••••• unchanged; ? unclear.

[a] See text for more details.

1. Main positive trends

Increasing efficiency of resource use

74. The case studies prepared for the Day of the Workplace programme organized in connection with the fourth session of the Commission contained several examples of resource-use efficiencies achieved by individual companies. In most cases, resource use was reduced by half and significant cost savings were achieved.[32]

Environmental stewardship

75. The most significant change that has taken place in the last decade concerns the motivation of business and industry to change towards achieving greater sustainability. Unlike previous decades, in the 1990s businesses are moving towards sustainable development because green business is good business. Being responsible for the future makes business sense, an approach that leads companies to not only comply with environmental regulation through pollution control methods but also to move towards resource efficiency, new production processes and partnerships with the greater community in which they are located.

76. The efforts of some very large companies, such as 3M, are receiving recognition from Governments and independent institutions. 3M was one of the 15 recipients of the 1996 United States Presidential Award for Sustainable Development, and was ranked third in eco-performance in a study of 50 largest companies carried out by the Hamburg Institute of Germany.[33] Its future strategy is to become a sustainable development corporation whose products and processes provide economic and social benefits with minimal impact on the environment.

Enterprises subscribing to sustainable development

77. The World Business Council for Sustainable Development (WBCSD) was formed during the UNCED process to increase awareness and action for sustainable development among large businesses. The original list of member companies grew from 50 in 1992 to 137 in 1996. Dozens of regional and national affiliates have also been established. National and regional affiliates of WBCSD are making significant contributions to local and national sustainable development efforts through field projects, and national or regional discussion forums on business and sustainable development issues.[34] The Business Charter for Sustainable Development, developed by the International Chamber of Commerce (ICC) and launched in the UNCED preparation period, continues to be adopted by companies around the world. According to information provided by ICC, 2,150 enterprises currently support the Charter and integrate its principles into their business practices. An environmental management system training kit, developed by ICC, UNEP and the International Federation of Consulting Engineers, assists the efforts of the enterprises wishing to implement the Charter's principles.

Growth in "green" business

78. The environmental goods and services industry is among the fastest growing business sectors, and is expected to grow to a US$ 300 billion industry by the year 2000.[35] Such growth is attested throughout the world. For example, according to the 1995 State of the Environment in Asia and the Pacific,[36] the

regional environmental market is worth $80 billion, and is expected to reach $120 billion by the year 2000. Although a quarter of that market is held by companies in Japan, other countries of the region also expect that sector to grow. Environmental investments in the Republic of Korea, for example, are expected to grow from $1.25 billion in 1992 to $4.75 billion in the year 2000.

Business response to growing social and ethical concerns on the role of the private sector

79. Companies making a commitment to ethical and responsible business practices are also growing in number. The Ethical Business Directory available on the Internet currently includes over 100 companies around the world, including large multinational businesses. Corporate responsibility is one of the priority areas of focus for the Sustainable Ventures Network, whose members are companies that are known as front-runners in the area of corporate social, ethical and environmental responsibility. Non-governmental organizations campaigns on a range of issues, from workers' rights to environmental health and safety in the workplace, are also receiving positive responses from a number of companies.[37]

2. Unfulfilled expectations

80. Although there are numerous examples of good practices by business and industry, the number of companies that are making strides in becoming sustainable development enterprises is small relative to the global total, a disappointing trend given that business and industry is the single most dominant factor influencing the direction of investments and financial flows, as well as the type of products produced and the processes with which they are made. The role of business and industry in sustainable development needs to grow to match the importance of its global role. Although some network organizations support sustainable development efforts among small and medium-sized enterprises, such at the International Network for Environmental Management, further effort in that direction needs to be among future priorities.

81. An important question is whether the positive business and industry responses in this area are reactions to public pressures or signs of an integrated approach to sustainable development by the private sector. It appears that relatively few companies have integrated sustainability requirements into their overall corporate strategy with a commitment to follow it even in the absence of stringent regulations. The behaviour of firms in free trade zones, where environmental regulations are more lax, indicate that the integration of sustainable development into corporate philosophy is far from complete.

82. Some of those concerns were raised in an input made by the Non-Governmental Organizations Caucus on Transnational Corporations, composed of 27 non-governmental organizations with a wide membership around the world, focusing on the growing dependence on voluntary corporate environmental practices at the expense of the diminishing role of Governments in overseeing and monitoring corporate responsibility. While the Caucus acknowledges progress within the business sector in cultivating greater eco-efficiency and sensitivity to environmental concerns, it points out that many more companies still need public and regulatory pressures, as well as governmental incentives to change

their behaviour. The Caucus calls for assessments of corporate behaviour to see whether corporate actions are "green without accountability" or involve demonstrable changes in corporate strategies.

83. An input from ICC proposes that greater progress in the next phase of Agenda 21 follow-up could be achieved by focusing on areas that need urgent action rather than on unfulfilled expectations. According to ICC, the private sector's priorities for the next phase include increasing use of multilateral arrangements to resolve transboundary environmental issues (instead of unilateral approaches); incentive-based approaches, such as joint implementation; greater involvement of business and industry in multilateral agreements and organizations through innovative consultative mechanisms; and a more prominent role for international environmental technical and management standards and voluntary codes, as complements to regulatory frameworks.

84. To benefit more fully from the existing positive initiatives of the private sector, its role and involvement in the next phase of Agenda 21, follow-up needs to be supported with public awareness campaigns, regulatory structures and enforcement, as well as incentives that reward positive action by the private sector. A greater focus by the Commission on the role of the private sector in sustainable development appears necessary in the next phase.

H. Chapter 31: role of scientific and technological communities

85. Chapter 31 has three objectives, focusing on extending the decision-making process and broadening the range of development and environment issues in which cooperation between scientific and technological communities and decision makers takes place; improving the exchange of knowledge and concerns between the scientific and technological community and the general public; and developing, improving and promoting the international acceptance of codes of practice and guidelines related to science and technology in reconciling environment and development.

Table 8. Progress in achieving chapter 31 objectives

Objective	Direction	Comments[a]
Cooperation with decision makers	→	Scientific communities, research institutes and technical centres have traditionally worked closely with national decision-making centres; however, further effort to disseminate the available knowledge more universally across countries seems necessary
Exchange of knowledge with the general public	?	The science and technology world is not well accessible to the general public; efforts to make scientific knowledge relevant to ordinary people are necessary
Codes of practice	•••••	It is not clear whether such codes of practice are being formulated and/or implemented widely

Key: → forward; ← backward; ••••• unchanged; ? unclear.

[a] See text for more details.

1. Main positive trends

Cooperation between scientists and governmental and intergovernmental institutions

86. Substantive involvement of scientific centres and organizations of scientists in sustainable development issues continues. Research centres, academic institutions and education communities have provided inputs to the annual Commission review process on issues ranging from oceans to transportation. The large networks of scientific communities, such as the International Union for Conservation of Nature and Natural Resources-World Conservation Union, and the International Council of Scientific Unions, include most sectoral themes of Agenda 21 in their work and projects. Most national councils for sustainable development include one or more national scientific institutions in their membership, providing an opportunity to base national policy-making on national scientific knowledge. Numerous inter-agency programmes continue their work to improve the scientific basis of sustainable development decision-making processes (for additional information on the role of scientific and technological communities, see E/CN.17/1997/2, Add.25).

Special programming to exchange information with other major groups

87. An innovative programme that links students with scientists for global learning on sustainable development is the Global Learning and Observations to Benefit the Environment (GLOBE) programme, initiated by the Government of the United States of America. The programme currently involves 43 countries and 3,000 schools. In addition to scientists and students, teachers and parents of the students take part in the activities. The GLOBE programme links scientific centres and satellite observations of the world's environmental condition with on-the-ground observations made by young people and schoolchildren. The activities help young people understand scientific information better, and increases their interest and knowledge by furthering their understanding of sustainable development issues through first-hand experience.

Impact of modern technologies

88. As electronic communications technologies advance and become more widely available around the world, they are also increasing the access of ordinary citizens to scientific information. Despite concerns that Internet access may be creating a new social strata of haves and have-nots, electronic communications have the potential to increase the exchange of knowledge rapidly around the world in an open, easy and relatively democratic manner, which is not only useful for linking scientists and scientific centres with each other but also for opening up available information to ordinary citizens instantly on demand, reducing their intellectual distance from scientific information.

2. Unfulfilled expectations

89. There is still a considerable gap between the general public and scientific institutions and their accumulated knowledge. Part of the isolation of scientists is due to the highly specialized content of their work and products, which are not easily comprehensible by the general public or the decision

makers. Further effort is necessary to make scientific information available in formats useful to decision makers as well as to the general public.

90. Scientific capacity in many countries is also lacking. Fewer young people appear to be enrolling in scientific education programmes, and the flight of trained scientists from the developing to the developed world continues apace. There is a need to support national scientific capacity by providing incentives that help to keep skilled professionals in developing countries and programmes that increase the interest of young people in scientific fields.

I. Chapter 32: role of farmers

91. Chapter 32 has six objectives, focusing on encouraging decentralized decision-making at the local level; enhancing the legal capacity of women and vulnerable groups to land tenure; promoting and encouraging sustainable farming practices and technologies; introducing policies that encourage sounder agricultural technologies and pricing mechanisms; developing a policy framework that provides incentives and motivation among farmers for sustainable and efficient farming practices; and enhancing the participation of organizations of farmers in the design and implementation of sustainable development policies (for additional information on the role of farmers, see E/CN.17/1997/2, Add.13).

Table 9. Progress in achieving chapter 32 objectives

Objective	Direction	Comments[a]
Decentralized decision-making	?	Rural decentralization is taking place, although the change is not necessarily a function of agricultural or farmers' related policy
Legal rights to land	•••••	Women and vulnerable groups continue to lack such rights
Promoting sustainable farming practices	→	Intergovernmental organizations and networks of farmers' organizations are conducting this type of activity; measurement of their impact needs further effort
Sounder agricultural technologies, pricing mechanisms	•••••	Although intergovernmental organizations have projects to enhance sounder technology use in agriculture, economic policies have not significantly changed to establish a more favourable pricing mechanism in this area
Incentives for farmers	←	Various subsidies in agriculture continue to counteract the need to provide incentives for sustainable farming
Full participation of farmers' organizations	•••••	Farmers' organizations continue to remain outside the decision-making loop; the lack of participation is most prominent in rural communities in the developing world

Key: → forward; ← backward; ••••• unchanged; ? unclear.

[a] See text for more details.

1. Main positive trends

Major meetings

92. The World Food Summit, held in Rome in November 1996, provided an opportunity for a global review of the agricultural sector in the context of long-term food security within environmental limitations. A total of 1,200 non-governmental organizations, including those that represent farmers' interests, participated in the Food Summit Non-Governmental Organizations Forum, at which they worked on a statement proposing alternative ideas to ensure food security.[38]

Promoting sustainable agriculture practices

93. Several large organizations of farmers or organizations working on related issues, including the International Fund for Agricultural Development, the International Federation of Organic Agriculture Movements and the World Sustainable Agriculture Association, have been active in the first phase of the Commission's work. Their inputs contributed particularly to the review of the land cluster of Agenda 21 chapters (chaps. 10-15) in 1995. Collections of case studies submitted show how farmers and their organizations are taking steps, independently or jointly with Governments or United Nations bodies, to promote sustainable agricultural practices around the world.

94. Examples drawn from the case studies presented in 1995 by the World Sustainable Agriculture Association and the Women Food and Agriculture Working Group demonstrate the commitment of farmers to sustainable development. For example, the work of Seed of Survival/Ethiopia and the Organization of Rural Associations for Progress of Zimbabwe focus on, among other things, conserving local seed varieties and educating farmers. Survival/Ethiopia works on reducing the rate at which plant genetic resources are being eroded in Africa by promoting and supporting farmer-based conservation, enhancement and utilization of the plant genetic diversity of major food crops in Ethiopia. The programme has been successful in multiplying traditional seeds, working through partnerships among both men and women farmers.

95. The Organization of Rural Associations for Progress works with rural communities by empowering them to define their development needs, and to develop and implement plans. Among other things, the Organization builds seed banks to retain gene plasm within the community, conducts participatory agricultural training and research and helps households to build granaries to reduce food shortages. The Community Alliance With Family Farmers Foundation in California promotes non-chemical agricultural production through its Lighthouse Farm Campaign. The Foundation aims to help farmers to reduce their reliance on farm chemicals, demonstrates sustainable farm practices to local farmers and applies grass-roots pressure for institutional changes in favour of non-chemical agricultural production in California, where the largest use of agricultural chemicals in the world takes place.

96. Small rural groups have also been in direct contact with the Commission secretariat through regular inputs. For example, the Sindh Rural Women's Uplift Group in Pakistan reported on their efforts to produce fruit crops without using

artificial fertilizers or pesticides. The Group uses natural fertilizers, including the compost of agriculture waste. Group members conduct their own research on improving the irrigation system to control soil moisture, soil analysis and developing new fruit crops. The Group's fruit yields are 3 to 4 times higher than other producers in the country, and are comparable to yields of large fruit growers in industrialized countries.

2. Unfulfilled expectations

97. Land rights are integral to the land reform process that has been part of international and national discussions as well as programmes around the world during the last three decades. According to documents prepared by the Food and Agriculture Organization of the United Nations for the World Food Summit, the land reform process, among other things, has so far failed to address the target population, has subsidized services and inputs that do not benefit agrarian reform and has lacked sufficient political support for land redistribution. In future, agrarian reform processes need to target landless groups, as well as to become an instrument for strengthening the economic and productive potentials of agricultural producers.

98. Such processes need to place particular emphasis on removing obstacles that inhibit farmers' investment in their land and on assisting farmers in responding strategically and effectively to changing conditions, opportunities and environmental constraints. Such an approach will also need to keep in mind that political and economic liberalization programmes have reduced the role of the State, which in the agriculture sector means reductions in the governmental provision of agricultural services. That trend in turn necessitates greater effort on the part of the Governments and international agencies to establish or consolidate strong alliances with farmers and other major groups for building consensus around sustainable agriculture policies and programmes.

99. Information and communications remain inadequate among farming communities. Small farmers and their organizations are relatively less connected with modern communications systems, and appear to be rapidly becoming isolated from the electronically connected world. Although grass-roots organizations and non-governmental organizations are valuable links of information for many rural communities, those links are not numerous or strong enough to help farmers keep up with the rapidly changing world of information. Investments in agricultural research, as well as in agricultural education for low-income farmers, are declining globally. Given the technological discoveries in the field of biotechnology that have great significance for farmers, there is a growing need to enhance farmers' education programmes.

III. CONCLUSIONS

100. Together with the Agenda 21 emphasis on partnership, the concept of major groups provides sustainable development with a fundamentally different background from the global action plans adopted previously. Actions that are based on partnership and the involvement of major groups open up a wider political space for a broad list of social and economic actors, which puts the

sustainable development challenge in the hands of not only Governments and United Nations bodies but also and equally of local communities, individuals, professional societies, businesses of all sizes and the various organizations of civil society at all levels. Hence, the emphasis on major group participation and partnership constitutes one of the most forward-looking elements of Agenda 21.

101. The five-year review shows that major group actors are actively involved in Agenda 21 implementation and monitoring. Activities are carried out at all levels, from the local to the international. The degree of success of those activities is not always clear, given that some are conducted by newly created mechanisms or institutions, many are carried out with meagre financial and technical resources, and most are not well linked with international processes for regularly sharing and exchanging information on their experiences.

102. The involvement of major groups as members, experts and advisers in the national coordination mechanisms is a positive factor, with potential long-term benefits at both the national and the international levels. However, those mechanisms are not in place in all countries, and those that are in place do not always involve the full spectrum of major group sectors or benefit from their full contributions as independent organizations. Furthermore, information at the national level on partnerships with or support for major groups, particularly from Governments, is scant.

103. International organizations both within and outside the United Nations system appear to have a growing interest in and commitment to working in partnership with non-governmental organizations and other major groups relevant to the mandates of such organizations. The trend towards developing guidelines, frameworks and institutional structures that give priority to greater and more effective involvement of major group actors in the project design, implementation and monitoring activities of international bodies is extremely promising for further success in the long term. However, existing initiatives are unevenly implemented between the headquarters and country or regional offices of United Nations bodies.

104. It is important to ensure that policies adopted at headquarters regarding major group participation are consistently disseminated and implemented at the field level, particularly since the emerging dimension of the next phase of Agenda 21 follow-up is action, implementation and measuring the impact of those actions. In such an action-oriented framework, major groups need to have a clearer picture of what types of partnerships with international organizations are possible or available, and the processes by means of which they may be established. Clear guidelines for the participation of major groups in the operational activities of the United Nations, as well as other multilateral bodies, are likely to be in growing demand in the next phase.

105. Financial and other resource restrictions continue to limit the role and contribution of some major groups and their long-term viability as strong partners in sustainable development. A decline in financial and technical assistance programmes, both bilateral and multilateral, could become a serious obstacle in the next phase of Agenda 21 follow-up if current trends continue. Given the more action-oriented focus expected in the next phase, having the

necessary financial, technical and knowledge support systems will be essential in order to bring on board the contributions and expertise of non-governmental organizations, youth groups, indigenous people, women and other major groups at all levels. The creation of special funds at the national, regional or international levels that accept private-sector contributions might be a useful mechanism, especially if such funds were administered by third parties or by multi-stakeholder committees.

106. The work of the Commission with major groups is seen as a positive factor by both major groups and many Governments and international organizations. The innovative approaches that have been adopted to increase dialogue and exchange between major group actors and member States in the Commission process have generated the intended results by increasing linkages between those actors in terms of information-sharing, joint undertakings and initiating consensus-building opportunities. However, such success leads to higher expectations for the next phase, which is expected to include more special days highlighting the contributions of particular major group sectors, as well as more formal and regular mechanisms through which major groups can meaningfully contribute Commission decisions. Similar expectations also exist for the quality and quantity of information and contributions made by the major groups themselves: in the next phase, their inputs will need to be more accurate, unique and reliable, while their organizational structures will need to be increasingly transparent and accountable.

107. Problems related to the lack of a clear definition of the major group concept, mentioned at the beginning of the present report, will continue to lead to practical problems in the area of operationalizing participation by major groups at all levels. Given that the major groups concept is one of the most innovative contributions that emerged from UNCED, further understanding to make it more operational at all levels should be on the agenda for the next phase of Agenda 21 follow-up. Further discussions focusing on the major group concept in informal settings, such as inter-sessional workshops or seminars, may help to develop a better understanding of the concept and how it can be further operationalized in the context of local, national, regional and international institutions working on sustainable development.

108. The thematic concerns of major group organizations and actors also need to be better incorporated into local, national, regional and international programmes, projects and other efforts. So long as work done to achieve sustainable development does not significantly improve the quality of life, many major group organizations feel that the objectives of Agenda 21 will fail to be achieved.

IV. RECOMMENDATIONS

Further efforts to enhance the participation of major groups in national sustainable development decision-making processes

109. Agenda 21 gives the highest priority to actions at the national level, in which major groups are to be full partners. While major group participation in national sustainable development coordination mechanisms is considered a

success, not all national coordination mechanisms have full representation by all major group sectors. Furthermore, participation in the national coordination mechanism alone represents a limited response to the participatory vision of Agenda 21. Further national efforts are necessary to enable both broad-based participation at the national level and major group involvement in all parts of national sustainable development decision-making processes.

Formalized participation in the work of the Commission

110. Many major groups are positive about the level of openness and transparency practised by the Commission but increasingly suggest that the future work of the Commission should include mechanisms that enable direct contributions to decision-making by major groups, preferably through formalized mechanisms. It might be useful to review the feasibility of existing proposals made by non-governmental organizations and other major groups. In the context of discussions for the next phase of Agenda 21 follow-up, the Commission may wish to include such a review on its agenda in order to formulate feasible options that would allow opportunities for a more direct interaction between major group actors and the Commission.

Special days at Commission sessions

111. Experience with special days focusing on the role of a particular major group sector has been positive, with long-term multiplier effects. Future sessions would benefit from incorporating similar events. A schedule should be developed in conjunction with the Commission's work programme (for example, a day of women and day of indigenous people in 1998; a day of farmers and day of scientific and technological communities in 1999; and a day of non-governmental organizations in the year 2000). Setting a tentative schedule of such events ahead of time would help the major groups concerned to make effective preparations.

Greater involvement of network organizations of major groups in the reporting process

112. Establishing formal links between the task manager and a lead network organization from each major group sector could improve the reporting process in the next phase. As official partners of the task manager for major groups, such lead network organizations could assist with information collection and analysis, which would provide the overall reporting process with a more solid footing for outreach, analysis and information.

Making Agenda 21 a familiar text for the general public

113. More general awareness of Agenda 21 needs to exist for the next phase of its follow-up to move towards action, implementation and measurement of impact. Citizens need to be more familiar with Agenda 21 objectives and related implementation and monitoring processes in order to know the choices that exist and make informed decisions at all levels. National efforts to translate and disseminate Agenda 21 or nationwide Agenda 21 campaigns are good practices that deserve replication. National offices of United Nations bodies, such as UNDP and the United Nations information centres, need to increase their efforts to

build a well informed global society, and should make themselves more accessible to interested citizens' groups at the local and national levels. Partnerships with non-governmental organizations to adapt information material on Agenda 21 to local languages and local needs could be pursued as an innovative way to increase the use of existing information while enhancing partnership arrangements.

Notes

[1] See Report of the United Nations Conference on Environment and Development, vol. I, Resolutions Adopted by the Conference (United Nations publication, Sales No. E.93.I.8 and corrigendum), resolution 1, annex II.

[2] Two special collections of case studies were prepared in 1995 and 1996. The first set of 14 local Agenda 21 cases was the joint product of the International Council for Local Environment Initiatives, the United Towns Development Agency, the United Nations Centre for Human Settlements and the Commission secretariat, prepared for the Day of Local Authorities. The second set of 12 cases were prepared for the Day of the Workplace, jointly produced by the International Chamber of Commerce, the International Confederation of Free Trade Unions, the International Network for Environmental Management, the United Nations Environment Programme/Industry and Environment Programme Activity Centre, and the Commission secretariat.

[3] Information provided by the Division for the Advancement of Women, Department for Policy Coordination and Sustainable Development of the United Nations Secretariat.

[4] See A/51/38; the Convention was adopted by the General Assembly in its resolution 34/180 of 18 December 1979, was opened for signature in March 1980, and entered into force in September 1981.

[5] That was one of the conclusions of the expert group meeting on women, population and sustainable development (Santo Domingo, November 1996), jointly organized by the United Nations Population Fund, the International Research and Training Institute for the Advancement of Women, and the Department for Policy Coordination and Sustainable Development of the United Nations Secretariat.

[6] The report of the Secretary-General on the status of women in the United Nations Secretariat (A/51/304) suggests levels of 37 per cent by 1997 and 41 per cent by 1999 as more realistic targets.

[7] The YI process involved hundreds of young people between the ages of 13-28 around the world, and enabled the largest youth participation in the work of the Commission, with 60 young people from 37 countries. The YI project was coordinated by a steering committee composed of Rescue Mission; the Commission's Youth Working Group; the Youth Program of the Earth Council; the United Nations Development Programme; the United Nations Children's Fund; the United Nations Population Fund; the United Nations Educational, Scientific and Cultural Organization; the United Nations Environment Programme; and the Commission secretariat.

[8] Projected from a graph entitled "Out-of-school youth, by sex, 1960-2025"; available on the UNESCO World Wide Web site at: www.education.unesco.org/educprog/stat/g161_yv.html.

[9] For example, 45 per cent of Colombia's young people live in poverty, 18 per cent in "conditions of misery", according to a statement made by the Vice-Minister for Youth of Colombia to the General Assembly in October 1995; see United Nations press release GA/8976.

[10] Increased levels of youth unemployment are reported for North Africa and the Middle East, sub-Saharan Africa and the economies in transition of Eastern Europe, and youth unemployment has been disturbingly high in a number of Organisation for Economic Cooperation and Development countries. The average duration of youth unemployment is also on the increase; see A/CONF.166/PC/6.

[11] "Child Labour", report of the ILO to its Governing Body (GB.264/ESP/1).

[12] A United States Department of Labor study indicates that codes of conduct adopted by industry can be a positive factor, especially when the companies involved are committed to their implementation; see Cornell University International Child Labor Study Office, "The apparel industry and codes of conduct: a solution to the international child labor problem?", available on the Internet at www.ilr.cornell.edu.

[13] See, for example, "Forced labor: the prostitution of children", collection of papers, presented at a symposium on the growing international problem of the forced prostitution of children, Washington, D.C., September 1995, organized by the Department of State of the United States Government.

[14] "Indigenous people" is the term used in Agenda 21. The plural form "indigenous peoples" is the term adopted by Governments in the Commission on Human Rights, and is preferred by indigenous peoples themselves.

[15] Jointly sponsored by the Governments of Colombia and Denmark, and co-organized by the International Alliance of Indigenous and Tribal Peoples of the Tropical Forest and the Coordinadora de Organizaciones Indígenas de la Cuenca Amazónica.

[16] The draft declaration is being drafted by the Working Group on Indigenous Populations of the Subcommission on Prevention of Discrimination and Protection of Minorities.

[17] Several observations need to be kept in mind for the current section. First, the realm of non-governmental organizations is large, diverse and continues to grow. The non-governmental organizations are increasingly at the centre of the dynamic between the trends towards globalization (of the economy, universal mass media culture, monolithic corporate formations, information revolution) and localization (of governance and management systems, local cultural diversity, local and regional identity, citizens as agents of global change). Thus, the rapidly changing role of non-governmental organizations and their effect on the world economy, society and politics is difficult to reflect

adequately in the limited confines of the present report. Second, in United Nations usage the term non-governmental organization often refers to all types of non-State organization, and thus the observations made under the other major group categories should be taken into account together with the present section on non-governmental organizations.

[18] UNED-UK has been selected as a model by UNDP, and People's Forum 2001 has been invited by non-governmental organizations in South-East Asia to share its experiences on how to develop a national network.

[19] See United Nations, Non-Governmental Organizations and Global Governance: Challenges for the Twenty-first Century (Geneva, 1996), p. 28.

[20] Local Agenda 21s were one of the first responses to Agenda 21. The concept was launched at UNCED by the International Council for Local Environmental Initiatives. Local Agenda 21s involve efforts of cities and towns to adapt Agenda 21 goals to their needs, developing a local framework for sustainable development.

[21] Survey results show this to be the case in Australia, Denmark, Finland, the Netherlands, Norway, Sweden and the United Kingdom of Great Britain and Northern Ireland.

[22] This was the case in Japan and China.

[23] The Government of Sweden distributed Agenda 21 in Swedish to all communities and schools, which prepared local communities to undertake a local Agenda 21, resulting in the highest number of local Agenda 21s in an individual country.

[24] Seventy per cent of local authorities have a local Agenda 21.

[25] The local Agenda 21 in Cajamarca involved community-based committees working with the Mayor's office. The tangible results include improved local transportation, a reduced deforestation rate and employment creation in businesses that are environmentally sound for local women. The case study of Cajamarca was provided by ICLEI for the Day of Local Authorities held in connection with the third session of the Commission.

[26] The Urban Environment Forum emerged from the series of conferences organized by the joint Habitat/UNEP Sustainable Cities Programme in Senegal, India and Turkey. The Forum will facilitate documenting, analysis, dissemination and learning from the diverse experiences of cities around the world.

[27] Themes range from how to achieve health and safety at work to dealing with and preventing sexual discrimination in the workplace.

[28] For example, the Laborers' International Union of America has a training programme to teach laborers state-of-the-art technical know-how on clean-up operations. The process involves negotiating contracts to share the cost of the training courses, as well as collaboration with federal environmental

authorities, such as the Environment Protection Agency of the United States Government.

[29] Among the examples of action that harmonize employment with "green" objectives is the green jobs strategy of the Australian Council of Trade Unions, which increased green jobs by 81 per cent between 1988 and 1993 during a period when the total national employment level was shrinking.

[30] For example, the International Federation of Chemical, Energy, Mine and General Workers' Union (ICEM) sees sustainable development as the dynamic behind the new and rapidly growing environmental services sector, which is expected to be increasingly important for jobs. Future ICEM priorities include developing information services for the use of environmental service industry workers, monitoring the best and worst practices in the industry, and building strategic alliances with the broader community.

[31] According to ICFTU statistics, in 1995 alone, 378 workers were murdered, 1,900 were injured, 5,000 were arrested or detained, and nearly 70,000 were improperly dismissed for taking the type of action recommended in Agenda 21.

[32] Some examples of resource-efficiency programmes are a partnership between a small Colombian leather-goods producer, Curtigran Ltda, and a non-profit environmental management organization, PROPEL, in 1994, which reduced pollution by 50 per cent and decreased operational cost by 11 per cent within two years; a medium-sized car battery producer in Hungary, PERION, which achieved a 50 per cent reduction in water use and earned 30 million forint per year from recycling car batteries between 1992 and 1995; and a large chemical company in South Africa, SASOL, which achieved savings of 10 million litres of water per year, with over US$ 6 million saved per year. For additional information, see E/CN.17/1997/2/Add.3 and 24.

[33] 3M, through its Pollution Prevention Pays programme, has prevented 1.4 million pounds of waste and saved over US$ 750 million since 1975 through 4,400 projects.

[34] For example, BCSD-Colombia, created in 1993, established an internal committee in 1994 to assist members in incorporating sustainable development in their approach and to implement eco-efficient practices in the production processes of its member companies. The organization has launched an information service in 1995 to give general public access to information about Council members' investments, actions and programmes related to sustainable development.

[35] OECD, The OECD Environment Industry: Situation, Prospects and Government Policies (Paris, 1992).

[36] Asian Development Bank and the Economic and Social Commission for Asia and the Pacific (ECU/OES/MCEA/PM/4).

[37] For example, OXFAM launched a campaign in mid-1996 to improve working conditions in the garment industry. Several large companies, including C&A, Marks and Spencers, the Burton Group, Next and Sears have since held meetings with the campaigners. The first three companies are working with the

campaigners on improving their company codes of conduct. See the OXFAM Web site at: www.oneworld.org/oxfam/campaign/clothes/clocodh.htm.

[18] Some participating non-governmental actors have raised concerns about Summit results, including the lack of strong language on the role of transnational corporations in the agriculture sector and of serious action to reduce poverty, overdependence on trade as a solution, insufficient protection of farmers against dependence on genetically altered seeds, and the continuing lack of effort to establish land rights for women, indigenous people and the poor.

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Overall progress achieved since the United Nations Conference on Environment and Development

Report of the Secretary-General

Addendum

Financial resources and mechanisms*

(Chapter 33 of Agenda 21)

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INTRODUCTION

1. The present report reviews progress made in the implementation of the objectives set out in chapter 33 of Agenda 21 (Financial resources and mechanisms),1/ taking into account the decisions taken by the Commission on Sustainable Development on that subject in 1993, 1994, 1995 and 1996, at its first, second, third and fourth sessions. Chapter 33 of Agenda 21 provides an agreed framework for the financing of sustainable development, and is related to the implementation of all other chapters of Agenda 21.

2. Agenda 21 acknowledges that, in general, the financing for its implementation will come from a country's own public and private sectors. However, it clearly places the financing of sustainable development within the global economic context by stating that developing countries will need substantial new and additional funds for the implementation of sustainable development programmes, and that official development assistance (ODA) should be a main source of external funding for those countries, especially the least developed countries.

3. Interestingly, the most important source of external finance for developing countries since the United Nations Conference on Environment and Development (UNCED) has been private capital flows, particularly for Latin American and Asian countries that have embraced outward-looking strategies and sound macroeconomic policies. Nevertheless, the conclusions and recommendations of international experts have regularly emphasized that while private flows are a necessary condition for sustainable development they are not sufficient, because first, most of the poorest countries do not obtain substantial amounts of private capital, and second, sustainable development requires some types of social and environmental investments that do not attract private capital.

4. There have been three main developments concerning the flow of public resources to developing countries since UNCED: first, a decrease of ODA in both absolute terms and with respect to donors' gross national product (GNP), which at 0.27 per cent in 1995 was far from the Agenda 21 target of 0.7 per cent; second, successful implementation of many debt relief programmes, which have improved the debt indicators of many developing countries or slowed their rate of deterioration (although further efforts are still needed in sub-Saharan Africa and other highly indebted poor countries); and third, some shifts in official development finance toward social and environmental areas (see table 2).

5. As regards innovative financial mechanisms that can raise new and additional funds, some have already been implemented. Although so far they have raised only a small amount of resources, they represent a promising source of finance for the future. Among those mechanisms the most important at the national level have been economic instruments, such as pollution charges, taxes, subsidy reductions and tradeable permit programmes. At the international level, some promising progress has been achieved by joint implementation programmes, international environmental funds and national environmental funds, which have started attracting external financial resources.

6. In the area of finance, the work of the Commission in the UNCED follow-up process has benefited from work by the Bretton Woods institutions, the Organisation for Economic Cooperation and Development (OECD) and other international organizations. In addition, three expert group meetings on financial issues of Agenda 21, held at Kuala Lumpur in 1994, at Glen Cove, New York, in 1995, and at Manila in 1996, which were sponsored by various donors, provided valuable inputs. A fourth expert group meeting on financial issues was convened at Santiago at January 1997, sponsored by the Governments of Chile and the Netherlands.

7. Sections I-IV below provide a more detailed assessment of the performance of financial mechanisms since 1992, and categorize major developments as significant advances, promising changes and unfulfilled expectations.

I. KEY OBJECTIVES AND MAJOR EXPECTATIONS

8. The main objectives of chapter 33 of Agenda 21 are (a) to establish measures concerning financial resources and mechanisms for the implementation of Agenda 21; (b) to provide new and additional financial resources that are both adequate and predictable; and (c) to seek the full use and continuing qualitative improvement of funding mechanisms to be utilized for the implementation of Agenda 21.

9. Agenda 21 recognizes that, in general, a country's own public and private sectors should provide the bulk of the resources for sustainable development financing. However, ODA was expected to be a main source of external funding for developing countries, especially for least developed and other low-income developing countries. Thus, UNCED reaffirmed the target of 0.7 per cent of developed countries' GNP for ODA. Debt relief of both low and middle-income developing countries was also an explicit concern in Agenda 21, which called for measures to address that problem. Chapter 33 also urged that policies be implemented to increase the level of foreign direct investment (FDI). In addition, UNCED raised expectations about the contribution of innovative financial mechanisms to the mobilization of new and additional financial resources.

II. SIGNIFICANT ADVANCES IN THE FINANCING OF SUSTAINABLE DEVELOPMENT

10. The two major developments concerning financial resources and mechanisms for sustainable development since UNCED are the unexpectedly large increases in private capital inflows to developing countries, and significant progress towards the alleviation of the external debt burden of developing countries.

A. Private capital flows

11. The average of annual private capital flows - excluding export credits - to developing countries from OECD Development Assistance Committee (DAC) countries in the three-year period from 1993 to 1995 was about $126 billion (about 62 per cent of the total net resource flows from DAC countries to developing countries), which compares with a $60 billion annual average for the

period 1990-1992 (which then represented about 45 per cent of the total net resource flows from DAC).2/ More importantly, FDI from DAC countries, a type of investment that is more stable and reliable than portfolio investments and international bank loans in the long term, has increased from an annual average of $25 billion (about 19 per cent of total net resource flows) in the period 1990-1992 to an annual average of $47 billion (about 23 per cent of total net resource flows) in the period 1993-1995 (see table 1). In real terms, both total private flows and FDI have almost doubled between 1992 and 1995.

12. Developing countries have expressed their concern that private capital flows, in particular portfolio investments, are very volatile, which poses a threat to the stability of exchange rates. Recognizing that, in general, large external capital movements are likely to be the market response to changes in expectations about domestic economic performance, the 1995 meeting of the International Monetary Fund (IMF) Interim Committee enhanced the IMF ability to monitor the economic policies of member countries and increase the transparency of national policies through improved and more timely provision of data. IMF has also substantially increased its capacity to provide emergency funds in case of future threats of currency collapse. At its fourth session, the Commission recommended further in-depth studies on that issue.

13. Developing countries are concerned that private capital flows are concentrated in a few developing countries (12 countries accounted for about 80 per cent of total private flows and three quarters of FDI in developing countries during the first half of the 1990s), mostly middle-income countries in Asia (which accounted for about two thirds of the expansion of total private flows) and Latin America that have adopted outward-looking strategies and sound macroeconomic policies.

14. It can be argued that if one measures those flows relative to developing countries' GNP, both private flows and FDI have been more evenly distributed than their absolute figures indicate. In fact, the average ratios of FDI to GNP have increased for all developing regions since 1990. Nevertheless, an analysis of those figures across countries shows that the ratio of FDI to GNP of the poorest countries is still less than half of that of middle-income developing countries.

B. External debt

15. One of the most important reasons why the poorest economies do not attract private capital is their high level of external debt relative to export capacity. The high level of debt payments has a negative effect on domestic investment, including the investment necessary to attract private capital.

16. Debt-to-export ratios - the main indicators of an economy's ability to repay its debt - of most middle-income developing countries has substantially improved in the 1990s.3/ The debt problems of the 1980s for middle-income developing countries have been alleviated through a combination of sound domestic economic policies, liberalization of international trade and capital movements, rescheduling of bilateral external debt and the introduction of new instruments, such as Brady bonds and debt conversion programmes (of which debt-equity swaps have undoubtedly been the most successful, particularly in Latin

America until 1994). However, the debt burden of heavily indebted low-income countries has not improved in the last several years. In fact, those countries paid only 39 per cent of their total debt service in 1994, and their average debt service ratios are expected to more than double between 1994 and 1997.4/ That burden has obviously hampered their development potential and will continue to do so. In fact, the external debt problem of low-income countries has been repeatedly identified by the Commission as a threat to achieving sustainable development, and a more comprehensive and durable approach to assist those countries has been recommended (see E/CN.17/1996/38).

17. During the past few years, important efforts have been made to address that issue. Bilateral donors, particularly the Paris Club, have gradually put in place more comprehensive debt rescheduling and debt relief programmes that in some cases may eventually amount to 80 per cent reductions of selected debt stocks. The International Development Association (IDA) Debt Reduction Facility has also had an important impact on reducing the commercial debt of the poorest countries through buy-back programmes. Those initiatives have achieved the stabilization and even reduction in some cases of the debt stocks of the countries involved, and have thus helped to decrease the rate of growth of the ratio of debt stock to exports. However, that ratio is still unsustainably high and continues to increase. One of the reasons for that deterioration, despite the efforts of debt alleviation programmes, is that such programmes have only addressed partial aspects of the debt problem, leaving some of the largest components of the external debt problem, such as multilateral debt, unresolved.

18. In that context, the initiative of the IMF Interim Committee and the IMF Development Committee, which at their April 1996 meeting proposed a new framework of action to resolve the debt problems of poor heavily indebted countries, is a real breakthrough, because that initiative is based on a comprehensive approach to the solution of the debt problem that recognizes that all the main creditors (bilateral and multilateral) of a particular country should cooperate and coordinate their contributions to the alleviation of the recipient's debt burden. The initiative will target the external debt of 41 of the world's poorest and most heavily indebted countries, and its implementation will be conditional on sound domestic economic policies.5/ Total costs are estimated at $5.6 billion to $7.7 billion (depending, among other things, on the export performance of the debtor countries), provisionally divided among multilateral (57 per cent), bilateral (41 per cent), and private (2 per cent) creditors. Plans call for phased debt relief by bilateral and private creditors to be topped off by enough multilateral debt relief to bring countries to a sustainable debt position.

III. PROMISING CHANGES IN THE FINANCING OF SUSTAINABLE DEVELOPMENT

19. Given the current scarcity of public resources, additional funds need to be mobilized through increased use of economic instruments (general tax reforms, eco-taxes, subsidy reduction and tradeable permit schemes), increased private-sector involvement, national environmental funds and innovative international financial mechanisms. In addition, further shifts in priorities of international organizations in the allocation of resources to sustainable development objectives are required.

A. Domestic economic instruments

20. Domestic economic instruments can contribute to the financing of sustainable development in two ways: as an incentive to reduce environmentally harmful activities and as a source of revenue for sustainable development programmes. Proceeds from environmental economic instruments implemented to date, however, are sometimes returned to industry to finance environmental investments and sometimes used to reduce other taxes, thus becoming 'revenue neutral'.

21. In principle, economic instruments could be effective and efficient instruments for financing sustainable development. In practice, however, their implementation has been limited due to important political and administrative obstacles. The most important obstacles are their perceived effects on income distribution and competitiveness, the need for a well-developed administrative infrastructure to levy them, and the lack of full knowledge about their economic, social and environmental consequences. However, such mechanisms are increasingly being used in OECD countries, as well as in some developing countries and economies in transition.

22. Examples are general tax reforms involving new taxes on fossil fuels compensated by changes in income and general energy taxes in Norway, Denmark, and Sweden; domestic eco-taxes, such as carbon taxes in Finland and the Netherlands: taxes on air and water emissions in several Eastern European and Asian countries; taxes on pesticides and fertilizers in several OECD countries; subsidy reductions, such as the reduction of environmental unfriendly farm and coal production subsidies in several OECD counties; and tradeable permit programmes such as the tradeable sulphur dioxide emission permit scheme in the United States of America and transferable fishing quotas in Iceland and New Zealand.

23. With regard to OECD countries, studies have shown that first, economic instruments do affect the behaviour of polluters and users in the expected direction; second, in general, undesired effects of economic instruments can be compensated for by the use of other policy instruments; and third, redistributional schemes can help to protect industries from the potential loss of international competitiveness that may result from the implementation of economic instruments.

B. National environmental funds

24. Environmental funds are innovative financing mechanisms that can pool revenues from various types of resources (earmarked taxes and charges, concessional grants or loans, debt-for-nature swaps, interest on endowments etc.) to provide long-term funding for environmental programmes. The success of those mechanisms is reflected in their growing number in developed and developing countries and economies in transition that have adopted them.6/

25. Advantages of those mechanisms are that they provide a relatively stable source of funding; attract finance from diverse sources, including external sources; provide accumulated expertise in identifying and managing environmental projects at the national or local levels; and can build capacities of local

communities and non-governmental organizations. However, they do not always address broader social and economic concerns, they do incur relatively high administrative costs, and they may not always provide the legal and financial safeguards that donors require.

C. Domestic private investment in sustainable development

26. Private-sector investment can be very effective in promoting economic growth and can at the same time have positive social or environmental effects. Examples are efficient power production, water supply and treatment, renewable energy, waste management, and the application of cost-effective and clean technology.

27. In that context, the Commission has repeatedly reminded Governments of the necessary conditions for sustained private investment, including the adoption of macroeconomic, legal and environmental policy frameworks that are clear, credible and stable. In addition, the protection of property rights and access to finance by the private sector are of great importance. Access to finance can be facilitated by deregulated domestic financial markets, promoting co-financing and venture capital funds, build-operate-transfer schemes for the financing of infrastructure projects, and privatizing utilities.

D. International financial mechanisms

28. There are some successful models for international financial mechanisms, such as joint implementation programmes (e.g., the pilot phase for activities implemented jointly (AIJ) established by the Conference of the Parties to the United Nations Framework Convention on Climate Change at its first meeting and international environmental funds (e.g., the Global Environment Facility (GEF) and the Montreal Protocol Environmental Fund (MPEF)) which have transferred developed country resources to developing countries for investments in sustainable development related to the protection of the global environment.

29. After the successful completion of its pilot phase, GEF was replenished by $2 billion in 1994.7/ Joint implementation programmes have expanded significantly: the secretariat of the United Nations Framework Convention on Climate Change reported to the Conference of the Parties to the Convention at its second meeting 32 ongoing or planned AIJ activities worldwide.8/ However, both the GEF and AIJ programmes are still small relative to the need for external funds for the implementation of the global aspects of Agenda 21.

30. The incentives for developed countries to participate in joint implementation programmes could be substantially enhanced through the establishment of binding commitments on global and national emission reduction targets (which are absent during the current AIJ pilot phase of the United Nations Framework Convention on Climate Change, and are due for review at the end of the decade). Further replenishments of international environmental funds should be considered, and the 1997 negotiation for a new three-year replenishment of GEF will have special importance in that regard. Both joint implementation programmes and international environmental funds are seeking more involvement of non-governmental organizations and private-sector investors in

existing and new programmes. GEF and MPEF provide good examples of how public funds can leverage private resources.

Financing sustainable development: the World Bank

Since UNCED, the World Bank has embraced the concept of sustainable development, balancing social and environmental concerns in its lending programmes. There are two promising developments that confirm that trend.[a] First, the increased interest of the World Bank in the environmental and social effect of its projects in developing countries, and second, the tenth and eleventh replenishments of its concessional lending arm, IDA.

As regards the environmental and social concerns of the World Bank, starting from a small portfolio for environmental issues before UNCED, the Bank's loan portfolio for environmental projects reached $10 billion in 1995 and $12 billion in 1996 (distributed across 137 projects in 62 countries and 153 projects in 68 countries, respectively). Thus, about 36 per cent of the Bank's lending since UNCED has either targeted the environment directly or had some form of positive environmental effect. Furthermore, in 1995 the Bank started providing "green accounting" of the $87 billion it has committed in the past four years (1993-1996). It has also actively participated in the management of GEF and MPEF, and has started incorporating environmental and social assessments into Bank-financed projects.

The main challenges for the future role of the World Bank in sustainable development are to complement project-specific environmental assessments with a sectoral and regional environmental focus; increase the importance of social assessments of its projects; increase the involvement of the private sector in sustainable development projects; and improve available information on global and environmental trends.

As to funding for IDA, agreements have been reached on the funding for IDA 10 and IDA 11 since UNCED. Agreement on the funding of IDA 11 was reached in March 1996, after difficult negotiations. That pledge, together with other IDA resources (from IDA 10 carry-over, credit payments and contributions of the International Bank for Reconstruction and Development), will enable IDA to fund a programme of special drawing rights (SDR) of 14.5 billion over the next three years, down 6 per cent on estimated requirements and also below the SDR of 16 billion of IDA.[b]

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[a]See Mainstreaming the Environment, 1995 issues, and Finance and Development, December 1996.

[b]See Development Cooperation, 1996 report (Paris, OECD).

IV. UNFULFILLED EXPECTATIONS

31. The major unfulfilled expectations can be found within the areas of ODA and international tax schemes.

A. Official development assistance

32. The average ODA in the period 1993-1995 was lower than in the period 1990-1992, both in absolute terms and as a percentage of GNP (which at an average of 0.29 in the period 1993-1995 was the lowest level in decades).9/ Only four countries achieved the Agenda 21 ODA goal of 0.7 of donor's GNP: Denmark, Sweden, Norway and the Netherlands (see table 2). Measured at 1994 prices and exchange rates, ODA decreased by 9 per cent between 1990 and 1995 (see table 1).

33. The disappointing performance of ODA is particularly important for the poorest developing countries (average ODA to the least developed countries has decreased to below 0.10 of donors' GNP in the first half of the 1990s, far below the 0.15 target of the United Nations Programme of Action for the Least Developed Countries), which have little access to other sources of external finance.

34. The main reasons for the poor performance of ODA in the early to mid 1990s include budgetary austerity in donor countries, poor performance of aid recipients and the belief of some donor countries that private capital flows can substitute for ODA to some extent.

35. At its third session, the Commission proposed ways to enhance the effectiveness of ODA through the elaboration of national sustainable development strategies, with the participation of all interested parties; the use of ODA to leverage additional domestic and external resources, through such schemes as co-financing, joint ventures, underwriting of country risks and venture capital funds; and the promotion of public and political support in donor countries for raising ODA levels.

B. International innovative mechanisms

36. Traditionally, Governments have been unwilling or reluctant to cede sovereign taxation power to international bodies. As a result, not much progress has been made since UNCED in the discussion of international taxes, such as the international tax on air transport, the Tobin tax or an international carbon tax.

37. In its discussions, the Commission has focused on the proposed international air transport tax and the Tobin tax. Although there is agreement that both taxes could be an important source of revenue, there is currently insufficient political will to go much beyond the discussion of technical details.

38. With respect to international tradeable emission permits, the United Nations Conference on Trade and Development (UNCTAD) has undertaken extensive research on the design and implementation of an international tradeable

greenhouse gas emission programme,10/ and is currently cooperating with the Earth Council to develop a pilot emission market.

39. At its substantive session of 1996, the Economic and Social Council discussed new and innovative ideas for generating funds for economic development, and concluded that more research was necessary on that topic.

V. EMERGING PRIORITIES

40. The Commission has discussed the issue of financial resources for implementating the UNCED commitments by taking a comprehensive and balanced approach that focuses on external, domestic and innovative sources of finance. In spite of significant progress in the discussion of finance for sustainable development at both the national and international levels, more research work on the formulation of policy options needs to be undertaken to consolidate the progress achieved so far and address a large number of unresolved issues.

41. Among the most important unresolved issues, for example, are the unfulfilled UNCED commitments on ODA and the crisis of development aid in general. Other issues concerning external finance include the unresolved debt problem of some developing countries and the controversial relationship between FDI and sustainable development.

42. With respect to domestic resource mobilization for sustainable development, it may be necessary to consider a wider range of instruments and mechanisms, and to discuss reforms in such areas as public expenditures (subsidies, military spending and unproductive public expenditures). Furthermore, policy guidance is needed on how to redirect financial resources through macroeconomic and structural reforms. In addition, it will become increasingly important to discuss how greater private-sector participation in the financing of sustainable development can be achieved.

43. As to innovative mechanisms, at the national level it will be most important to promote environmental taxes and charges and learn from the experiences of countries that have made significant progress in that regard. At the international level, the main issues are to enter into a debate on political obstacles and to discuss technical problems in greater detail.

44. The above-mentioned examples of unresolved issues in the debate on finance for sustainable development outline to some extent the unfinished agenda at the national and international levels. A fourth expert meeting on financial issues of Agenda 21 was scheduled to be held at Santiago from 8 to 10 January 1997 to provide analysis and develop policy options on some of the unresolved issues.

Notes

1/ See Report of the United Nations Conference on Environment and Development, vol. I, Resolutions Adopted by the Conference (United Nations publication, Sales No. E.93.I.8 and corrigendum), resolution 1, annex II.

2/ The information on DAC countries contained in this section can be found in Development Cooperation, 1994 and 1996 reports (Paris, OECD). The information on non-DAC countries can be found in World Debt Tables, 1996 (Washington, D.C., World Bank). It is important to clarify that the DAC figures do not include portfolio equity investments or any type of capital flows that developing countries obtain from non-DAC countries (mainly other developing countries in the same region). Adding non-DAC capital flows for the period 1993-1995 would increase the total amount of capital flows substantially. For example, the total amount of private flows to developing countries for the period 1993-1995 would increase by approximately 20 per cent, and total FDI would increase by approximately 60 per cent.

3/ Unless otherwise specified, information contained in this section can be found in World Debt Tables, 1996 (Washington, D.C., World Bank).

4/ See Development Cooperation, 1996 report (Paris, OECD).

5/ See "Heavily indebted poor countries: debt initiative", World Bank pamphlet, November 1996.

6/ See "Environmental funds for sustainable development", proceedings of a seminar for interested members of the OECD/DAC Working Party on Development Assistance and Environment (Paris, April 1995).

7/ See Global Environmental Facility, annual report, 1995 (Washington, D.C.), for more detailed information.

8/ See Joint Implementation Quarterly (Groningen, the Netherlands, JIN Foundation), September 1996.

9/ The information contained in this section can be found in Development Cooperation, 1994 and 1996 reports (Paris, OECD).

10/ See F. Joshua, "Design and implementation of pilot systems for greenhouse gas emissions trading: lessons from UNCTAD's GHC research and development project", paper presented at a conference on controlling carbon and sulphur international investment and trading initiatives, London, Royal Institute of International Affairs, 5 and 6 December 1996.

Table 1. Total net resource flows to developing countries

	Type of resource flow	1990	1991	1992	1993	1994	1995	1990	1994	1995
		(billions of current United States dollars)						(percentage of total)		
I.	OFFICIAL DEVELOPMENT FINANCE	69.8	69.7	69.8	70.1	71.6	69.4	52.3	33.3	29.0
	1. Official development assistance[a]	52.9	58.6	58.9	56.4	60.5	60.1	41.9	28.1	25.1
	Bilateral disbursements	39.4	42.4	41.4	39.6	41.3	40.6	31.2	19.2	16.9
	Multilateral disbursements	13.5	16.2	17.5	16.8	19.2	19.5	13.4	8.9	8.1
	2. Other ODF	16.9	11.1	10.9	13.7	11.1	9.3	10.4	5.1	3.8
	Bilateral disbursements	6.7	4.4	7.4	6.4	7.5	5.0	5.3	3.5	2.1
	Multilateral disbursements	10.2	6.7	3.5	7.3	3.6	4.3	8.1	1.7	1.8
II.	TOTAL EXPORT CREDITS	4.7	1.8	1.3	-0.6	9.3	11.0	3.7	4.3	4.6
	Short term	4.5	-0.8	0.5	-1.5	0.2	0.8	3.6	0.1	0.1
III.	PRIVATE FLOWS	51.8	50.8	76.8	86.4	134.1	158.9	41.0	62.3	66.4
	1. Direct investment (DAC)	26.4	22.6	27.3	38.6	48.5	53.6	21.0	22.5	22.4
	To offshore centres	7.1	6.5	9.5	9.5	9.1	9.0	5.6	4.2	3.7
	2. International bank lending[b]	15.0	11.0	31.0	9.0	42.6	70.0	11.9	19.8	29.2
	Short term	7.0	12.0	25.0	7.0	44.0	50.0	5.5	20.5	20.9
	3. Total bond lending	0.9	6.5	11.1	9.0	29.0	19.3	0.1	13.5	8.1
	4. Other private[c]	4.4	5.3	1.4	4.0	8.0	10.0	0.3	3.7	4.2
	5. Grants by non-governmental organizations	5.1	5.4	6.0	5.8	6.0	6.0	4.0	2.8	2.5
	TOTAL NET RESOURCE FLOWS (I+II+III)	126.3	122.3	147.8	155.9	215.0	239.3	100.0	100.0	100.0
	Memorandum items									
	Total net credits from IMF	-2.2	1.0	-0.3	-0.8	-0.5	13.1			
	Recorded asset transactions by LDCs, net	-23.6	47.2	6.9	-26.2	-20.1	-			
	Interest and dividends paid by LDCs, gross	-95.4	-91.1	-92.6	-95.5	-90.7	-			
	Total official grants	39.4	45.4	44.9	43.4	45.5	46.8			
	Total intra-LDC flows (ODA)[d]	6.0	2.7	0.9	1.1	0.9	0.6			
	At 1994 prices and exchange rates									
	Total net resource flows	141.4	132.2	150.8	162.5	215.0	218.5			
	Total official development finance	78.1	75.4	71.2	73.1	71.6	63.4			
	Total ODA receipts	59.2	63.4	60.1	58.8	60.5	54.9			
	Total DAC ODA[e]	59.3	61.3	62.1	58.9	59.2	53.6			

Source: 1996 report by the Chairman of the OECD Development Assistance Committee, table III.1.

[a] Excluding forgiveness of non-ODA debt for the years 1990 to 1992.
[b] Excluding bond lending by banks (item III.3), and guaranteed financial credits (included in item II).
[c] No reporting has been received from DAC members on portfolio equity investment.
[d] Not included in total net resource flows.
[e] Bilateral and multilateral.

Table 2. Official development assistance performance of OECD Development Assistant Committee countries, 1992 and 1995

	1995 (Percentage of GNP)	1992 (Percentage of GNP)	1995 (Millions of dollars)	1992 (Millions of dollars)	1995/1992 (Millions of dollars)
I. In 1995, four countries reached the United Nations target of 0.7 per cent of GNP for ODA					
Denmark	0.96	1.02	1 623	1 392	231
Norway[a]	0.87	1.16	1 244	1 273	-29
Netherlands	0.81	0.86	3 226	2 753	473
Sweden	0.77	1.03	1 704	2 460	-756
II. Five other countries reached 0.35 per cent					
France	0.55	0.63	8 443	8 270	173
Canada	0.38	0.46	2 067	2 515	-448
Belgium	0.38	0.39	1 034	870	164
Luxembourg	0.36	0.26	65	38	27
Australia	0.36	0.37	1 194	1 015	179
III. Ten countries were between 0.20 and 0.34 per cent					
Switzerland	0.34	0.45	1 084	1 139	-55
Austria	0.33	0.30	767	556	2 111
Finland	0.32	0.64	388	644	-256
Germany	0.31	0.39	7 524	7 583	-59
Ireland	0.29	0.16	153	69	84
United Kingdom	0.28	0.31	3 157	3 243	-86
Japan	0.28	0.30	14 489	11 151	3 338
Portugal	0.27	0.36	271	302	-31
Spain	0.24	0.27	1 348	1 518	-170
New Zealand	0.23	0.26	123	97	26
IV. Two countries were below 0.20 per cent					
Italy	0.15	0.34	1 623	4 122	-2 499
United States	0.10	0.20	7 367	11 709	-4 342
DAC total	0.27	0.33	58 894	60 850	-1 956

Source: based on 1994 and 1996 reports by the Chairman of OECD Development Assistance Committee.

[a]Norway's ODA/GNP ratio has been substantially revised downwards due to the introduction of the System of National Accounts, 1993 (SNA 1993) and a general update of its national accounts data. Norway is the first country to implement the new SNA.

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Overall progress achieved since the United Nations Conference on Environment and Development

Report of the Secretary-General

Addendum

Transfer of environmentally sound technologies, cooperation and capacity-building*

(Chapter 34 of Agenda 21)

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* The present report was prepared by the Department for Policy Coordination and Sustainable Development (DPCSD) as task manager for chapter 34 of Agenda 21, in accordance with arrangements agreed to by the Inter-Agency Committee on Sustainable Development (IACSD). It is the result of consultation and information exchange between United Nations agencies, international and national organizations, interested government agencies and a range of other institutions, individuals and major group representatives.

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INTRODUCTION

1. The present report reviews progress made in the implementation of the objectives set out in chapter 34 of Agenda 21 (Transfer of Environmentally Sound Technologies, Cooperation and Capacity-Building),[1] taking into account the decisions taken by the Commission on Sustainable Development on this subject in 1993, 1994, 1995 and 1996 at its first, second, third and fourth sessions respectively.

2. Many goals of Agenda 21 depend for their achievement on the introduction of cleaner and more efficient technologies (environmentally sound technologies (ESTs)). Since the United Nations Conference on Environment and Development, workshops and studies have been conducted, and information and awareness-raising campaigns initiated, at the national, regional and international levels. They are intended to stimulate the demand for ESTs and thus promote their transfer and diffusion. A few conclusions can be drawn as follows:

(a) Successful technology transfer involves more than the transfer of physical hardware. The skills to use the equipment are crucial to success. Without the education and training to enhance the capabilities for scientific inventions and technological innovation, and for adaptation and absorption of technologies, sustaining sound business operations, implementing environmental and quality management systems, and maintaining the equipment, the hardware will almost certainly fail to fulfil its purpose. Technology transfer and capacity-building to adapt, absorb and diffuse technologies and, finally, reach a higher level of capability for technological innovation are two sides of the same process;

(b) Technology transfer between developed and developing countries is not a one-way flow of resources. It works best when it builds upon sustained partnerships or cooperative arrangements in which all partners can realize their interests and share responsibilities and benefits over the entire technology transfer process;

(c) In identifying or developing technological solutions, it is essential to ensure that these solutions fit the conditions, needs and capacities of the potential users, and are consistent with community requirements for sustaining economic growth, lifestyles and the environment. Thus, suitable technological solutions are often the result of merging high-tech industrial knowledge transferred from abroad with low-tech indigenous knowledge existing in the user country;

(d) Technology transfer is primarily a business-to-business transaction. This pattern is steadily reinforced as foreign direct investment (FDI) becomes increasingly larger than official development assistance (ODA). A Government's enactment of an economic and legal framework, with a practical system of environmental regulations, compliance mechanisms, and supporting economic and fiscal measures, is accordingly the greatest single facilitator for accelerating and enhancing the demand for, and transfer of, ESTs. Although the main impact of policies will most likely remain through environmental regulations and standards, there can be a gradual shift, noted in a growing number of countries,

towards balancing regulatory regimes through the use of economic instruments and voluntary approaches so as to provide more flexibility in achieving economic results, while practicing environmental responsibility in production and market operations;

(e) There is evidence that the shift from pollution control to resource efficiency has gained momentum. Many developed and developing countries and economies in transition have adopted cleaner production and eco-efficiency policies and programmes which put emphasis on the introduction of integrated technological solutions in production processes. It has been realized, however, that the level of technology transfer and technological transformation required to accelerate progress towards cleaner, more resource-efficient systems and processes of production in many developing countries and economies in transition needs financial support and partnership arrangements with donor countries and agencies, as well as private sector initiatives and investments. The promotion of cleaner production in developing countries figured as an important item in the agenda of the fifteenth meeting of the Working Party of the Development Assistance Committee of the Organisation for Economic Cooperation and Development (OECD), held in Paris, on 28 and 29 October 1996 (see box 1);

Box 1. Global market for environmental goods and services

According to OECD estimates, the global market for environmental goods and services amounted to US$ 200 billion in the 1990s, and will rise to US$ 300 billion by the year 2000. Within these overall figures, it is difficult to identify the proportion of the market devoted to cleaner production technologies. Though OECD countries actually account for around 80 per cent of the global demand for environmental goods and services, the markets for these goods and services are growing fast in other parts of the world, notably Asia and some Eastern European countries. This is due to accelerating rates of economic growth in those parts of the world coupled with efforts to address pollution problems.

(f) There is a trend within industry towards eco-efficiency and cleaner production. A recent study noted that less than 20 per cent of North American and European companies are at the forefront of the latest advances in eco-efficiency and cleaner production. Hence, significant and increasingly rapid gains in resource efficiency are required at a global scale. The most effective way to stimulate companies around the world to engage in eco-efficiency and cleaner production efforts is to convince them that investments in cleaner production technologies and methods result in competitive advantages and is a precondition for sustaining business operations. Though environmental awareness has increased throughout the world in past years, it is not yet sufficient as a driving force towards the adoption of ESTs and cleaner production methods by entrepreneurs;

(g) The biggest challenge for resource efficiency exists with small- and medium-sized enterprises (SMEs). SMEs make up the bulk of business ventures around the world and their environmental implications and resource demands are equally large. In many countries, in particular developing countries, the bulk of untreated industrial waste and pollution originates with the SMEs, which frequently lack the resources and access to finance needed to implement cleaner production.

3. While progress in adopting and implementing policies and programmes to promote and facilitate the transfer and diffusion of ESTs is well documented, it has been extremely difficult to make reliable estimates on the actual transfer of ESTs to developing countries and the real size and growth of EST markets, or on the share of investments that can be clearly assigned to financing of the transfer and diffusion of ESTs. A major reason for this is that most technology transactions and EST-related investments take place in the private sector at an enterprise-to-enterprise level. Information on these transactions or investments is generally not made available by companies although the Commission, in one of its decisions, called for the provision of more information in this regard. Another reason is that available information on domestic or international flows of goods and services usually do not specify transfers of, or investments related to, ESTs.

I. PROGRESS ACHIEVED IN THE IMPLEMENTATION OF KEY OBJECTIVES

4. Consistent with the conclusions of inter-sessional meetings and the programme of work on the transfer of ESTs[2] adopted by the CSD at its third session in 1995, the following three objectives are reported on: (a) improving access to and dissemination of information on ESTs; (b) capacity-building for managing technological change; and (c) financing and partnership arrangements. The report focuses on trends and processes rather than initiatives. A "Compilation of information on initiatives of countries and international organizations to implement the objectives of Chapter 34 of Agenda 21" is also being prepared for submission as a background document to the Commission on Sustainable Development at its fifth session.

A. Improving access to and dissemination of information on environmentally sound technologies

5. There is, in general, no lack of information on ESTs or of systems and sources that provide such information. Over the past years, there has been a proliferation of databases, information systems and clearing-house functions - public and private, national and international - dealing with particular types of ESTs or providing technological information more generally (see box 2). Problems that exist in information access and dissemination are related to (a) the ability of technology suppliers, users of ESTs and intermediaries to know about and to be able to access information systems and sources and (b) the level of cooperation and compatibility among these information systems and sources.

Box 2. Secretariat of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal embarks on a survey of indigenous technologies

The secretariat of the Basel Convention has decided to undertake a survey of existing information systems on indigenous technologies related to hazardous waste, and to make the information provided through this survey available to the Parties to the Basel Convention, through their Regional Centres for Training and Technology Transfer. The effort will respond to the need for promoting the development and use of indigenous technologies which has repeatedly been brought up, in particular by representatives of developing countries. In the preparation of the survey, the secretariat of the Basel Convention will use, as a basis, the Survey of Information Systems Related to Environmentally Sound Technologies prepared by UNEP.

6. A Survey of Information Systems Related to Environmentally Sound Technologies[3] undertaken by the United Nations Environment Programme (UNEP) provided useful insights on the modes of operation of these systems and sources, their interaction with the relevant institutional infrastructures, and the services they provide. The Survey emphasized the need for concrete measures to increase compatibility and cooperation among information systems and sources related to ESTs, including the usefulness of a consultative mechanism to improve communication between information providers and users. UNEP's 1996-1997 programme of work has provided for the establishment of such a consultative mechanism that will take the form of a loosely knit network of institutions that provide and use information on ESTs. Its specific function will be to improve the dissemination of information on ESTs to industry and national and local authorities, and to enhance the abilities of users and decision makers to assess the social, economic and environmental performances of available technological options.

7. Interactive electronic networks, such as the Internet, offer a wide range of new opportunities for communication and information dissemination among technology providers and potential users. On the other hand, it is sometimes noted that, to date, industry has not made sufficient advances in exploiting the opportunities provided by electronic communication and networking in terms of business operations.

8. Information technology is no longer restricted to industrialized countries, either in innovations or in applications. In fact, rapidly industrializing countries, in particular in Asia and Latin America, are already competing successfully with industrialized countries in software development and data management techniques. However, a considerable number of developing countries still lack the technologies - "software" and "hardware" - to make adequate use of the rapid development of sophisticated modes of information and communication. The Conference on Information Society and Development, held in Midrand, South Africa, in May 1996, organized by the South African Government,

in cooperation with the members of the Group of Seven (G-7) and the European Union (EU), underlined the tremendous potential of information technologies for meeting basic needs of developing countries (see box 3). It also recognized that there is insufficient investment in developing information infrastructures in most developing countries, despite the fact that there is an extensive unmet demand for information and communication technologies and services.

Box 3. Computer networking technology supports implementation of the Beijing Platform for Action*

The United Nations "Women Watch" project is aiming at facilitating the global information exchange for monitoring the implementation of the Beijing Platform for Action through the use of computer networking technology. Improving access, training and links with other communication tools and networks is considered essential for women with regard to their becoming more successfully involved in electronic communication and in using computer technology to their advantage.

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* Report of the Fourth World Conference on Women, Beijing, 4-15 September 1995 (A/CONF.177/20 and Add.1), chap. I, resolution 1, annex II.

B. Capacity-building for managing technological change

9. Building local capacities is essential to transferring, diffusing and creating innovative technological solutions that respond best to a particular social, economic or environmental problem. Capacity-building for technology management is an important element of technology cooperation between developed and developing countries. Activities undertaken by donors in areas of environmental legislation and planning, education and training, awareness-raising, institution-building, environmental management, and so on, have been directly or indirectly instrumental in terms of the development of local demand for ESTs as well as the ability to identify technological needs and assess available options.

1. Technology needs assessment and environmental technology assessment

10. Technology needs assessment (TNA) can be a useful tool for the Government or other constituencies of a particular country in identifying a portfolio of technology transfer projects and capacity-building activities to be undertaken to facilitate, and possibly accelerate, the development, adoption and diffusion of ESTs in particular sectors of the national economy (see box 4).

Box 4. Technology needs assessment under the United Nations Framework Convention on Climate Change[a]

The secretariat of the United Nations Framework Convention on Climate Change is currently working on technology needs assessment, as comments were requested of non-annex I Parties with regard to their technology needs in respect of addressing climate change and its adverse effects. Furthermore, developing-country Parties will be required to include more detailed information on their technology needs (technologies and know-how) in their first national communications.

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[a] A/AC.237/18 (Part II)/Add.1 and Corr.1, annex I.

11. Practical experiences gained by some countries and international agencies in carrying out TNAs yielded concrete results in different ways. They presented an opportunity to emphasize the demand-driven approach. Identified technology transfer and capacity-building projects were tailored to the actual needs of the local beneficiaries in the developing countries concerned, and helped coordinate follow-up activities at the national level. They are also offering opportunities for the collaboration of donors in financing and implementing the identified projects. As many providers and recipients of ESTs are private enterprises, a determined and early effort is needed to harness their potential technology and financial capacities. It was also useful for a local institution to carry out the TNA.

12. If undertaken on the basis of an integrated and participatory approach - with the Governments as the formulators and enforcers of economic and legal policies, non-governmental organizations and the scientific community as the environmental agencies that know the most about the resilience and carrying capacity of the Earth, and the private sector as the prime mover for technological development, transfer and diffusion - TNAs can contribute to policy integration by making both public and private decision makers more aware of the environmental consequences of their actions.

13. It was emphasized that, if sustainable development is the goal, the potential environmental impacts of a particular technology must be identified before a decision to acquire that technology is made. It is therefore important to integrate environmental technology assessment (EnTA) with technology needs assessment as an important tool for evaluating potential ESTs and the organizational, managerial and human resource systems related to the proper use of these technologies.

14. At the international level, there has been an emerging interest in sharing the experiences gained by a number of countries and international organizations in conducting and implementing TNAs. In response to this growing interest, the Governments of the Netherlands and Switzerland organized an international

workshop of experts, with the objective of elaborating guidelines on strategy and methodology for national technology needs assessments. The meeting agreed on a set of conclusions and recommendations regarding TNAs which was made available by the Governments of the Netherlands and Switzerland to the Commission for Sustainable Development at its fourth session in 1996 in the form of a "Guidance document on natural needs assessments (NNAs) regarding environmentally sound technologies (ESTs) for developing countries" (E/CN.17/1996/34, annex, annex I).

2. Cleaner production centres as facilitators in technology transfer and technological transformation

15. National cleaner production centres (NCPCs) were established as the result of country initiatives as well as, in a number of developing countries and economies in transition, with the support of donors or international organizations, including in the framework of multilateral and bilateral cooperation projects (see box 5). They have begun to play a major role in developing a "culture" for cleaner production in local communities and country-wide by coordinating cleaner production programmes, acting as an interface among industry, government, universities and non-governmental organizations, and building the human capacities required to acquire and manage cleaner technologies. According to OECD experiences gained in working on specific environmental issues in Central and Eastern Europe, cleaner production centres are very useful in coordinating and running cleaner production programmes, with the support of, among others, professional engineers' associations, technical institutes or industry associations. The secretariat of the Basel Convention reported that Regional/Subregional Centres for Training and Technology Transfer being operated under the Convention have become important vehicles for the promotion of the transfer of ESTs related to hazardous wastes.

Box 5. UNIDO/UNEP National Cleaner Production Centre Programme

Under the United Nations Industrial Development Organization (UNIDO)/UNEP National Cleaner Production Centre Programme (NCPCP), natural cleaner production centres (NCPCs) were established or supported in the following countries: Brazil, China, the Czech Republic, India, Slovakia, Mexico, Tunisia, the United Republic of Tanzania and Zimbabwe. In order to improve communication and consultation among these NCPCs, counterparts, sector-specific working groups and other supporters, UNEP has set up an e-mail-based conference network (NCPC-NETWORK listserver). This e-mail network is intended for the circulation of information and news on programme events. It also provides an easy mechanism for self-help among subscribers with respect to obtaining quick answers on various questions that may come up during centre operations.

16. The main incentive for local companies to engage in cleaner production efforts is the expectation of enhanced competitiveness and more cost-effectiveness. NCPCs need, therefore, to focus on the argument of economic benefits by providing detailed information about the cost-benefit ratio and the payback periods of successfully implemented cleaner production programmes. Demonstration projects that display 'technology in action' are essential to enhancing the confidence of entrepreneurs that investment in ESTs not only makes their operations environmentally more sustainable but constitutes good business sense as well. Consultation and information exchange, including through the use of interactive electronic networks, among existing NCPCs and with other parts of the local or national EST support structure (for example, information systems and sources related to ESTs, technical advisory and consultation services, marketing support and legal advice services, and institutions of research and development), are important.

C. Financing and partnership arrangements

17. Some studies have indicated that the problem is not just lack of financing, per se, for the transfer of ESTs, and that the issue is more one of market development than of mobilization of finance. According to this argument, if the market for ESTs is properly developed, particularly within developing countries, there will be no lack of finance available on reasonable terms. This view contends that, as of now, there is no firm market for environmental technologies in many developing countries, hence finance is not being attracted to such technologies. The first step, therefore, is to provide an appropriate context for private sector investment to take place.

18. In some cases, financial resources have been made available by Governments and this has demonstrably accelerated the transfer of ESTs. An example has been provided by the Multilateral Fund under the Montreal Protocol on Substances that Deplete the Ozone Layer, a protocol to the Vienna Convention for the Protection of the Ozone Layer. According to UNEP, the Fund has made available, since 1991, US$ 0.5 billion to developing countries for the transfer of ozone-friendly technologies. The financial mechanism under the Montreal Protocol is the first international instrument to mobilize the resources required to change over to ozone-friendly technologies and successfully implement large-scale technology transfer. Each country that is a Party to the Montreal Protocol has listed and estimated in its country programme the resources required for the transfer of technologies. A preliminary estimate totals US$ 3 billion-US$ 7 billion.

19. Public-private partnerships are being implemented that try to link the advantages of private sector companies - access to finance and technology, managerial efficiency, entrepreneurial experiences and engineering expertise, the capacity for producing technological innovations - with the social responsibility, environmental awareness-raising, scientific research and job generation functions of local or national Governments. In implementing public-private partnerships, a strategic interaction has been established, in some cases, among governmental agencies, private sector entities and institutions of science and technology (see box 6).

Box 6. Public-Private Partnership for Urban Development

The UNDP-led Public-Private Partnership for Urban Development initiative represents a concrete type of strategic interaction referred to as the "technology triangle" in section IV, B.3 of the report of the Secretary-General on Chapter 34 of Agenda 21 (E/CN.17/1995/17) submitted to the fourth (1995) session of the Commission on Sustainable Development and in the report of the Commission on Sustainable Development at its third session,[a] that is to say, the Partnership constitutes a strategic collaboration among business and industry, institutions of science and technology, and government agencies. This UNDP-led initiative involves the independent not-for-profit Swiss association Sustainable Project Management and the Technology and Development Program (TDP) of the Massachusetts Institute of Technology (MIT). The central objective is to promote joint ventures between the private and public sectors to address key urban environmental problems in developing countries. Inherent components of the projects being implemented are community participation and capacity-building needs. The technologies being acquired must be both affordable and appropriate to the needs of the beneficiaries concerned.

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[a] See Official Records of the Economic and Social Council, 1995, Supplement No. 12 (E/1995/32), chap. I, sect. C.1, para. 143, work programme (para. 4 (e)).

II. TRENDS WITH IMPLICATIONS FOR THE TRANSFER OF ENVIRONMENTALLY SOUND TECHNOLOGIES

20. Freer flows of goods, services, finance and technology have resulted in expanding markets and new investment opportunities. These processes have, in general, broadened the scope for the transfer of ESTs and technology-related investments in developing countries and economies in transition, and for cooperative and partnership arrangements between these and developed countries. They have also, however, posed new challenges to developing countries and economies in transition with regard to their ability to realize economic growth and competitiveness.

21. As a consequence of the globalization process, a gradual change in the structure and manner of operation of enterprises can be noted. One agent of this change in the global arena is the transnational corporation (TNC). New management practices, forms of organization and approaches to industrial relations are associated with the building of supply and production chains and enterprise networks so as to be able to capture the full benefits of technological developments and applications. The rapid advances in the information and communication technologies have opened up new possibilities of

coordinating production and market operations of companies that are dispersed geographically while linked electronically.

22. A growing number of Asian and Latin American countries have made rapid advances in economic growth and standards of living, fuelled by expanding trade, and capital and technology flows. Many developing countries and economies in transition are adopting far-reaching economic and political reform programmes to successfully integrate into an increasingly competitive and interdependent world and to attract private investment flows. The beginning economic recovery of Central and Eastern European countries has opened up new opportunities for productive investments, domestic and foreign. It can be expected that international trade in environmental goods and services will increase considerably in Asian, Latin American and Eastern European countries.

23. The expansion of economic activities of large companies and TNCs, as they set up foreign operations or seek opportunities for productive investments, can facilitate the access of companies of developing countries and economies in transition to finance and technologies, through, for example, subcontracting or including them in production and supply chains of larger companies and TNCs. SMEs of OECD member countries are another distinct source for technology partnerships with companies of developing countries and economies in transition. According to OECD, about half of the environmental industry in Europe, the United States of America and Japan consists of SMEs. To internalize their research and development (R and D) costs and blend the necessary multidisciplinary know-how and marketing skills, these SMEs would have a strong incentive to collaborate with partners abroad.

24. The further development and implementation of new concepts linking quality management to environmental management, such as the Environmental Management and Audit Scheme (EMAS) and the International Organization for Standardization's 14000 Series of standards (ISO 14000), are emerging as an important tool within companies' overall management systems. The application of these standards will most likely make the environmental implications of industrial processes more transparent, and will have an impact on companies in adopting measures that promote eco-efficiency and cleaner production.

III. UNFULFILLED EXPECTATIONS AND CONSTRAINTS

25. Although no concrete data are available, there is overall recognition that the level of technology and technology-related investments from public and private sources in developed countries directed to developing countries has not, in general, been realized as envisaged at the United Nations Conference on Environment and Development. Increased private flows have led to investments in industry and technology in some developing countries and economies in transition. However, the fact that many developing countries have been left behind has slowed the process of technological change in these countries. Particular concern has been expressed by developing countries over the lack of commitment of developed countries to the following objective: "to promote, facilitate, and finance, as appropriate, the access to and the transfer of environmentally sound technologies and corresponding know-how, in particular to developing countries, on favourable terms, including on concessional and

preferential terms, as mutually agreed, taking into account the need to protect intellectual property rights as well as the special needs of developing countries for the implementation of Agenda 21* (para. 34.14 (b)). It is for the same reason that representatives of developing countries have highlighted the importance of access to, and transfer of, ESTs that are in the public domain.

26. Many developing countries, particularly in Africa south of the Sahara, continue to lack a sufficient level of national scientific capacity including a critical mass of well-trained scientists, technicians and engineers, which is required to generate scientific inventions and produce technological innovation, and to adapt and absorb technologies. In this context, there is great need for developing and supporting intensive interaction between institutions of education and training and of research and development on the one hand, and local industries on the other.

27. More attention has to be given, including in technology cooperation and partnerships between developed and developing countries, to the promotion and use of environmentally sound indigenous technologies and related knowledge that exist in developing countries. Joint ventures or other forms of foreign direct investment in developing countries that combine high-tech industrial knowledge of developed countries' companies with low-tech indigenous knowledge of the host countries' enterprises could become effective mechanisms for stimulating the demand for ESTs and thus promoting their transfer to, and diffusion in, developing countries.

IV. CHALLENGES AND PRIORITIES AHEAD

28. More information is needed from both national and local Governments and the private sector regarding the effectiveness of policies to facilitate and accelerate the transfer and diffusion of ESTs. Such information could provide greater insights into (a) the relationship between environmental concerns and the demand for technologies and technological innovations; (b) the effectiveness of company strategies for adapting to the requirements of technological change and support for production processes that are environmentally responsible and competitive; and (c) trends regarding the dynamics of national environmental technology markets and more accurate international data regarding technology flows to developing countries.

29. The promotion of cleaner production in developing countries including through development cooperation and public-private partnerships is an important issue. Work under way and practical experiences gained on this issue should be shared with interested parties in order to improve understanding with regard to the policies that must be in place and measures to be taken to successfully implement cleaner production efforts in developing countries. Opportunities for the transfer and diffusion of ESTs that are in the public domain should be addressed.

30. Handling the human resources and capacity-building component of the technology package has become a key requirement. More sophisticated education and training of firm managers, engineers and other senior staff involved in scientific inventions, technological innovations and technology adaptation and

absorption are needed. Strengthening the ability of developing countries to incorporate EnTA as a basic principle for decision-making on technology transfer and diffusion is also important.

31. The predominant role of the private sector in the transfer and diffusion of ESTs and, more importantly, its leading function in the transition to cleaner production, have increased the private sector's responsibility for ensuring that technology-related investments and industrial and business operations are consistent with community requirements for sustainable lifestyles and environmental protection. Corporate responsibility must become an essential element of company policy, and the precautionary principle must be practised to avoid the transfer and diffusion of technologies that could have negative impacts on human health or the environment.

32. The strategic interaction between private sector entities and institutions of science and technology needs to be strengthened and supported by local Governments. The demand of SMEs for ESTs is growing in the process of their adapting to cleaner, more efficient production processes. They do, however, lack the resources to engage in R and D. Institutions of R and D need to orient themselves more towards the production of marketable R and D results. They have the manpower resources, technical equipment and experiences to produce technological innovations that would meet the needs of SMEs for ESTs.

Notes

[1] Report of the United Nations Conference on Environment and Development, vol. I, Resolutions Adopted by the Conference (United Nations publication, Sales No. E.93.I.8 and corrigendum), resolution 1, annex II.

[2] See Official Records of the Economic and Social Council, 1995, Supplement No. 12 (E/1995/32), chap. I, sect. C, para. 143.

[3] UNEP, April 1996.